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Remarks
ON
ORTHOPAEDIC SURGERY IN RELATION TO HOSPITAL TRAINING.

MADE IN OPENING THE ANNUAL MEETING OF THE BRITISH ORTHOPAEDIC ASSOCIATION IN LONDON ON NOVEMBER 12TH

BY

SIR ROBERT JONES, K.B.E., C.B., CH.M., F.R.C.S.,
PRESIDENT.

FIRST of all I wish to congratulate the British Orthopaedic Association on its ever-increasing vitality. When the association was founded, on the initiative of our good friend Dr. Osgood, we were in the midst of war, with but little time to spare on outside objects, and we displayed, I fear, a timidity as to the future of the association which time has proved to have been quite uncalled for. We now know that its potentialities are unlimited, and that they depend very largely, if not entirely, on the enthusiasm, the work, and the enterprise of its younger members. We depend on them for light and leading, and to carry the torch into dark places. We of the old brigade should encourage, and even endeavour to guide, the efforts of those who follow us. The moment we become obstructive and unsympathetic, the time has come for our best friend to guide us from active scenes and persuade us to lead a harmless and contented life, dwelling on the memories of the past. The signs of surgical senility are doubtless noted in quarters we least expect—they are rarely obvious to ourselves. A diminished surgical initiative may be compensated for by a ripe critical judgement and a sense of proportion, but the mind no longer receptive to a new idea belongs to a bygone day. The tide of surgical advance cannot be held back by voices from the past.

I need not dwell on the services of orthopaedic surgery to the injured of the war, nor on the services of the war to the orthopaedic surgeon; they have been generously and universally acknowledged. Not the least of these advantages is the better understanding which has developed between the general surgeon and ourselves, and the widened knowledge which has resulted from our association with one another. It should be our pleasure and our duty to do all we can to foster this good feeling in order to attract the best men to the surgery of the extremities. So long as we remain an exclusive cult, claiming a special perfection, we deserve some of the neglect and scorn with which we have been treated in the past. If we possess a special knowledge, it should be shown in the character of our work, which must ever remain the sole criterion of its value.

THE SCOPE OF THE ORTHOPAEDIC SURGEON.

The term "orthopaedic" has been somewhat confusing, and yet we still await a more expressive name to cover the group of cases we desire to treat, and this suggests the very important question as to the type of case which the term should cover. In the past a very superficial surgical knowledge was required by the orthopaedic surgeon. Lateral curvature, flat-feet, knock-knees, and certain congenital deformities mainly sufficed to represent the specialty. A few tenotomies and an occasional osteotomy were all the operations that were practised. An operative technique was not imperative, and the use of the knife was a last resort and generally represented the failure of mechanical effort. We must remember, however, that it is to these our forefathers, who by mechanical means and laborious effort accomplished so much, that we are so greatly indebted for our success in the operative field of to-day. They have impressed upon our minds the knowledge that an operation is but an incident in the treatment of a case, and that success so largely depends upon efficient after-care. In my early days under the tuition of H. O. Thomas, part of my daily routine consisted in manually unravelling advanced club-feet, aided, perhaps, by tenotomy of the tendo Achillis. Each case would represent several months of hard work, consisting of alternate stretching and fixation. The lesson it taught, however, was invaluable in demonstrating the effects of perseverance and patience.

Such a narrow definition of orthopaedic surgery as sufficed then cannot be allowed to obtain to-day, and for this reason we should agree as to the limits of its expansion. May I therefore venture to suggest the group of cases which a modern orthopaedic surgeon should be prepared to treat? They should consist of

Fractures—recent, malunited, and ununited.
Congenital and acquired deformities of the extremities.
Paralyses of the extremities.
Diseases, derangements, and disabilities of the joints, including the spine, wry-neck, and those conditions included under the general term "bone-setting."

This definition covers a very large area of surgery, and therefore will appeal to the ambition of the best type of young surgeon. To master the intricacies of so large a section of work requires exceptional ability, and the portals of success are not open to any but the very highly trained. This is as it should be. Some of the very distinguished general surgeons who helped us at the orthopaedic centres during the war have emphasized the fact that many of the operations involved in that work were amongst the most difficult they had ever known. This is a sufficiently good reason for raising the standard of education in the case of all who practise the specialty. The war has taught the orthopaedic surgeon that he has to be more of a general surgeon; it has taught the general surgeon that he should be more of an orthopaedist.

I have always maintained that an orthopaedic surgeon must primarily have a thorough working knowledge of general surgery, and that all through his life he must be cognizant of its advances. I cannot emphasize too strongly that unless this be accepted as a cardinal principle our section may even yet be reduced to a side-show—a refuge for anyone who is unable to hold his own in any operative procedure which his art requires of him. He should be saturated in sound surgical principles, and not become entangled in bewildering detail. He should be a master of detail but never governed by it. Function is his goal, and he should know and be able to practise the best way of arriving there. He must have a sense of perspective and of proportion. An operation means to him but the beginning of his problem. His most brilliant operative exploit, unless directed to a functional success, should be a reproach. This can only be achieved by acquiring, in addition to mechanical knowledge, an operative skill of the highest kind. I have only to look around me now to recognize men who have done splendid service during the war, and in whose hands one may safely trust the future of orthopaedic surgery.

The demand, however, is greatly in excess of the supply We want more men, and better facilities for training them We want every student to imbibe orthopaedic knowledge from a competent teacher. We want his attendance at the department to be made compulsory. It is futile to suggest that the curriculum is overburdened. The type of case which he will meet in the orthopaedic department is precisely that which confronts him at the examination board and in any remote village where he may practise. We want well trained men prepared to devote themselves to orthopaedic work, and to take their places on the staffs of all our general hospitals. On the other hand, if education is to be complete, it is essential that the orthopaedic department be fully equipped and adequately staffed. The principles of prevention should be studied, and the department should not be merely utilized to rectify cases which have not done well. How often on entering a so-called orthopaedic department do we find merely a massage room, a few Zander machines, some electric apparatus, but nobody with the requisite knowledge at the head of affairs!

Before offering a few suggestions on orthopaedic departments in relation to general hospitals and on the facilities for teaching, I wish to anticipate the attitude of the general surgeon towards the widened definition of orthopaedic surgery which I have advanced and which I look upon as fundamental. The surgeon may very properly urge that if so large a group of cases were taken from his wards much valuable teaching material would be lost to him. The answer to this is that the general surgeon should have an absolute right to treat any case and as many of any type of cases as he desires. The orthopaedic surgeon is alone to be limited as to type. He should only be allowed to treat cases which are included in the definition. The general surgeon should not be limited by any definition of any sort. Under such an understanding there

would be no resentment and no reservation. Take fractures as an example. The treatment carried on in the orthopaedic ward would be contrasted in friendly rivalry with that of the surgeon who takes such cases into the general ward. If the orthopaedic surgeon falls short of expectation, the rivalry will be to his disadvantage. Truth never shows better than when contrasted with error, and in the nature of events fractures will be absent from such an orthopaedic ward. If he should succeed, the reverse condition will occur, and the general surgeon will be only too delighted to be rid of a case in the treatment of which he does not excel. In any case, the rivalry will benefit them both—and, incidentally, the patient.

A great defect in our large general hospitals is the system whereby a surgeon is expected to treat equally well cases in regard to which he is an acknowledged master, and cases which do not interest him in the least. There is an urgent call to remedy this dangerous defect. Once a surgeon is convinced by demonstration of his inability to give the best to a patient he would no longer care to invite comparison. A surgeon of international reputation on the brain is only too pleased to hand over a case of haemorrhoids and accept a tumour of the pituitary. A well-organized orthopaedic department should prove a pleasant dumping ground to many a skilful and conscientious surgeon.

The Orthopaedic Department of a General Hospital.

The question now arises as to how an orthopaedic department in a general hospital should be organized. I have been asked this question by the staffs of several hospitals, and after consultation with some of my *confrères* I would suggest the following as an outline scheme:

Scheme.

The definition of orthopaedic surgery on the lines I have suggested should be adopted.

The general surgeon should be allowed to treat any of such cases as he desires.

The work of the orthopaedic surgeon should be strictly limited by the definition.

No orthopaedic department should be confined to the treatment of out-patients; it should be a complete unit with beds commensurate to out-patient demands.

The staff should consist of:

(*a*) *An Orthopaedic Surgeon.* This officer should be in charge of the department and see to its efficient conduct. He should be responsible for all cases admitted to his department. His practice out of hospital should be confined to orthopaedic surgery. He should have a seat on the Medical Board, and hold equal rank with the general surgeon.

(*b*) *An Orthopaedic Registrar.* He should be a Fellow of the College or studying for his final examination. He should be selected as a man desirous of practising orthopaedic surgery.

(*c*) *A House-Surgeon,* who should be appointed for at least six months.

(*d*) Dressers and clinical assistants.

Nursing.—It is important that the matron should grant security of tenure to the sisters in charge of the orthopaedic out-patient department and of the orthopaedic wards. It takes time to train nurses in the special work involved, and considerable responsibility is attached to them. They should, therefore, not be removed and placed elsewhere when it can be avoided.

Beds.—In a hospital of 300 surgical beds we should aim at obtaining 40 for the orthopaedic service. These beds should be segregated and not mixed with other types of cases. Beds in the country, as I will point out later, should be available for children. The out-patient department should contain a complete physio-therapy department, a plaster room (preferably in close proximity to the operating theatre), a plaster modelling room, a photographic room, and a workshop for the manufacture of splints and appliances. In order that complete records may be kept, a secretary should be attached to the unit.

Open-air Country Hospitals.

I have suggested country beds. For over twenty-five years I have preached the doctrine that children's hospitals should be abolished from the towns and established in the country. These hospitals should not be of the character of "cripples' homes" or "convalescent hospitals." They should be fully equipped and staffed for the most modern type of surgical work. Such hospitals, in addition to being economical, are of infinite service to the child. I would lay down as a fundamental principle that no in-patient hospital for children should be started in the centre of our cities, and that existing institutions should deal only with out-patient clinics and act as fitting centres, a few beds being retained for urgent and acute cases. A long experience has taught me the injustice of segregating sick and deformed children in the vitiated air of city hospital wards. Over twenty years ago, with the help of Miss Hunt, we started the first really open-air hospital in the world, where the children live in the open air by day and by night all the year round. This was followed by the large country hospital at Heswall, and later at Ruislip and Harrow. In none of these hospitals is there any possibility of closing the wards, and through sunshine and storm, snow and sleet, one side of the shed is always absent. It is a most inspiring sight to visit these children. Gaiety reigns rampant. Infectious disease—the bane of hospital wards—has never spread, nor has there been one instance of so-called "catching cold" or pneumonia. At Baschurch this principle of open air was extended to soldiers, and nowhere in my military inspections have I met with more contented men nor such rapid healing of wounds. The sheds are cheap and decrepit—there is an air of penury about it all—but it is the birthplace of a great reform, which is steadily gaining ground all over the world. Already several hospitals have sprung up in the United States based upon this rough Shropshire model. I have emphasized this subject because I feel very strongly that orthopaedic surgeons should convince hospital authorities of the urgent necessity of open-air annexes for the active treatment of crippled children. I am delighted to find that the governors of the Royal National Orthopaedic Hospital have adopted this principle, and are now appealing for funds to build and fully equip a country branch, where most of the operations will be performed. We should see that this is followed by similar action on the part of our general hospitals—especially where orthopaedic departments are attached.

The Training of Orthopaedic Surgeons.

It is a great misfortune that we have comparatively few well trained orthopaedic surgeons in Great Britain. In consequence there exist a very large number of avoidable deformities. This defect can only be overcome by the organization of efficient training. From all quarters there is a growing desire to learn, and it is obvious that if preventive methods are to be mastered we have to insist that our orthopaedic departments should have the opportunity of training students. We should pay no heed to the cry that there is no time. The training is essential if the practitioner is to become efficient. Take a walk round almost any wards with a physician, and you are almost certain to find a case that requires orthopaedic help. Visit the different spas and note the crippled adults in their bath chairs, most of them having consulted a distinguished physician. Yet nearly all these deformities are avoidable. Take such a group of cases as that of the rheumatoid. On scores of occasions I have been taken to their bedsides in hospitals and elsewhere to see if anything can be done for their joints. Valgoid ankles, acutely flexed knees, adducted and flexed hips—all avoidable. The assimilation of elementary orthopaedic facts would prevent it all. If a joint must stiffen, it should be allowed to do so in the best functional position. If the practitioner always knew this, and the consultant also, what trouble and anxiety it would save, and what a blessing it would be to the patient! The same holds good regarding poliomyelitis. The student therefore must be taught.

Having started our orthopaedic department, what can we suggest to facilitate teaching?

We will deal first with the undergraduate. I think it will be agreed that the student is more receptive of orthopaedic training towards the end of his curriculum than earlier. The essential point, however, is that his attendance should be compulsory for a certain number of sessions. It should be possible that on one day a week the orthopaedic department be prepared to lay itself out for systematic instruction, and the student should be obliged to attend upon at least twenty occasions. During that period every variety of case should be demonstrated, and opportunities should be afforded him to do practical work.

More especially should he be taught the principles that underlie the prevention of deformities and their correction. At this clinic the instruction should be of the simplest kind, and the student should not be burdened by material of a controversial character. He should not leave this clinic until he has mastered the simpler and more efficient methods of treating fractures. He should also be made familiar with the uses of plaster-of-Paris. This course of education should be carefully planned, and week-end visits should be made to the country hospital. In my opinion the out-patient departments of the general hospitals in London should lay themselves out for the reception of the undergraduate, and a hospital such as the Royal National Orthopaedic, in alliance with the Shepherd's Bush Hospital, should be equipped for the training of the post-graduate. Post-graduate teaching has hitherto been of a very unsatisfactory kind. Practitioners have come for, at most, a month or six weeks, and the arrangements, on the side of both teacher and student, have been of a most casual kind. The glamour of the operating theatre has overshadowed the out-patient department from which the bulk of his training should come.

Systematic instruction should be offered the post-graduate, and should consist of short courses for the practitioner who merely wants to be familiar with modern methods. Even this tuition should be carefully planned so that the education may prove intensive. The post-graduate who can only spare three months should be encouraged, for he is the type of man who feels the responsibility of not being competent. The post-graduate school should, however, be prepared with higher courses of training as applied to men who wish to become thoroughly efficient orthopaedic surgeons. These courses should extend some over one and others over two years, and graduates should be given every opportunity to familiarize themselves by practice both with mechanical and operative technique. At the end of the first year, if the work of the graduate has been satisfactory, he should be granted a diploma in orthopaedic surgery, and if he elects to train a second year he may take his university degree in the same subject. The higher courses should offer the advantages of the anatomical, the physiological, and the pathological departments, and for a degree original research work should be essential. I sincerely hope that a progressive university will favourably consider such a scheme.

There is one more point in connexion with training that I would like to suggest—namely, that the orthopaedic surgeon attached to teaching hospitals should be granted a lectureship, and that he be asked to deliver certain of the systematic lectures dealing with his specialty.

At present, alas! there are not enough orthopaedic surgeons to meet the hospital demands, but in many hospitals surgeons will be found who are interested in the surgery of the extremities. The results of the hospital treatment of injuries leave very much to be desired, and an effort should be made in all hospitals to segregate these cases into special wards. They are too often left in charge of the most junior member of the staff. A segregation of such cases in order that comparisons may be drawn will soon lead to better methods of treatment, and the surgeon who shows the greatest aptitude will ultimately obtain control.

In conclusion, I need scarcely emphasize the fact that on the personality not less than on the efficiency of the surgeon will the success of the orthopaedic department depend. Friendships and discussions with the staff will all make for higher education, and a feeling of comradeship will immensely add to the efficiency of hospital work. We can never forget the delightful spirit that dominated our orthopaedic centres during the war, where we each spoke to the other of our failures, and where any advance made by any member of the staff became at once the property of all. The secretive mind had no place amongst our workers. No member of a team was jealous of the other, and light hearts tempered responsibility. Uppermost in our thoughts springs Shepherd's Bush—a hospital so closely associated with His Majesty King Manuel, to whom we as orthopaedic surgeons owe so much, who accompanied us with unerring instinct through deep and troubled waters, and who devoted four years of his life in self-sacrifice and devotion to the cause of the wounded soldier. We welcome him amongst us to-day, proud that we can count him an honorary fellow of the British Orthopaedic Association.

ULCERATING GRANULOMA OF THE PUDENDA CURED BY INTRAMUSCULAR INJECTIONS OF ANTIMONY TARTRATE.

BY

H. LOVETT CUMMING, M.D., CH.B.EDIN.,
D.P.H., D.T.M. AND H.CAMB.,
SHANGHAI.

THE disease known as "ulcerating granuloma of the pudenda," "granuloma inguinale," "granuloma venereum," etc., is fairly prevalent in South China, British Guiana, West Indian Islands, India, West Africa, South Africa, and Northern Australia; it is less frequently seen in Ceylon and Central Africa. I have met with a number of cases in Malaya, but chiefly among coolies from India and China. It does not seem to be common among Malays and Javanese.

Ulcerating granuloma is now generally considered a venereal disease. In the great majority of cases it commences somewhere on the genitals, usually on the penis or labia minora, or on the groin, as a papule or small nodule. The epidermis over this gradually becomes inflamed, thinned out, and excoriated, and the surface breaks down to form an ulcer. The resulting ulceration is seldom deep. The disease either spreads by eccentric peripheral growth or by auto-infection from an opposing surface.

The affection is probably of protozoal origin, but so far nothing definite has been established. Some writers have described a spirochaete as the cause, while Donovan found present in the lesions certain bodies resembling "gigantic bacilli with rounded ends." Siebert found, in all instances, similar bodies in material from various countries, but called them diplococci.

On the other hand, spirochaetes have only been found in a certain number of cases, and when these have disappeared after salvarsan treatment the disease has still continued. In fact, salvarsan and allied preparations in the treatment of this disease have been either altogether useless or extremely disappointing.

I have seen several cases where the disease was quite uninfluenced by intravenous injections of salvarsan, which, with the more extensive experience of other writers, goes far to prove that, in any case, the origin of the affection is unlikely to be spirochaetal. The incubation period is uncertain. It is not referred to in any of the well known textbooks. In the case about to be described it was at least four weeks. Probably, in most cases, it is never likely to be much shorter than that period.

It is only within very recent years that antimony tartrate has come to be used in various diseases, chiefly tropical, which have hitherto resisted, almost completely, all previously known forms of treatment. This drug has been given with great success in kala-azar, Delhi boil, trypanosomiasis, bilharziosis, yaws, certain forms of syphilis, and in ulcerating granuloma of the pudenda.

During the summer of 1916 the writer saw a very advanced case of the latter disease cured at the Albert Docks Hospital by intravenous injections of antimony tartrate. This case was fully reported by Low and Newham in the BRITISH MEDICAL JOURNAL of September 16th, 1916, p. 387.

The following case is of particular interest on account of the method of treatment used and its complete success with comparatively small amounts of the drug introduced into the system.

S. H., an American, first consulted me on September 8th, 1919. He was suffering from chronic gonorrhoeal discharge—a thick yellow "bonjour drop"—which had been present off and on for nearly a year; also from several soft sores, three in number, with hard edges, situated on the dorsum of the penis in and behind the balano-preputial furrow, and involving to a slight extent the proximal end of the glans penis. There was a considerable amount of inflammation and infiltration present round the sores but no definite induration. The glands of the groin were neither enlarged nor tender.

The patient, who is a very observant and intelligent man, stated that he had first noticed on March 3rd, 1919—about six months previously—what appeared to be a slight abrasion, "similar to a hair-cut," which he himself treated steadily for about five days with alternate applications of silvol and potassium permanganate crystals, placed between layers of damp gauze and applied directly to the suppurating area—about two fresh applications of each drug every twenty-four hours. As a result by March 10th—a week later—there was closure of the

raw area, but a slightly swollen and inflamed area appeared, larger than the original open area.

This condition—an inflamed, hard, raised area—continued in a varying degree until it reopened and formed a fresh sore about the end of July, 1919. At this time three distinct sores developed. He treated the condition as before, with the addition of zinc ointment. The treatment was ineffective over a period of nearly a month—that is, up to September 9th, 1919, when he consulted me.

Source of Infection.—With regard to date and circumstances of exposure, nothing very definite was known. There were two possible exposures in the four weeks preceding March 3rd, 1919, one being a European and the other a Chinese (Cantonese) woman. Neither was a professional prostitute, to the best of his knowledge. This occurred in Hong Kong from December 18th, 1918, to February 1st, 1919. Ulcerating granuloma is quite common in South China, and amongst Cantonese prostitutes. The writer has since seen in Shanghai a Chinese woman from Canton who is suffering with this disease in a very advanced form.

Condition Present at First Examination, September 9th, 1919.—On close examination, the sore presented three definite and separate ulcerations, but the surrounding inflamed areas were practically contiguous, and the inflammation and infiltration were more pronounced at the parts more remote from the actual raw centres.

Thinking the condition was one of simple "soft sores," I prescribed "black wash" and a powder consisting of iodoform, calomel, and boracic acid, in equal parts.

September 17th. The sores were cleaner and smaller in appearance, and there was less inflammation present. Solution of silver nitrate, 10 per cent., was painted on the affected parts. This treatment was continued until September 30th, when a decided improvement was noted. Only one sore remained unhealed; this affected the balano-preputial furrow, and extended on to the posterior rim of the glans penis.

October 2nd. Thinking the continued gonorrhoeal discharge might be the cause of the persistence of the ulcer, I passed the urethroscope. The urethra bled readily; inflammation extended back to the internal sphincter, from 1½ in. behind the meatus; there were no signs of infected follicles. Bi-daily douches of potassium permanganate (1 in 4,000) were ordered, and a soothing diuretic mixture to be taken after meals three times a day.

October 11th. Less discharge from urethra; the remaining ulcer still unhealed, but apparently healing in parts; edges ragged and irregular; same treatment continued.

October 24th. Ulcer spreading slowly anteriorly, with breaking down and irregular edges, like modified granulations, deeper than before; healed and healing at the proximal end and opening up distally; no discharge. On this occasion I definitely diagnosed the condition as "ulcerating granuloma," owing to the general appearance, chronicity, and manner of spread, absence of enlarged inguinal glands or constitutional symptoms. Nothing very definite was revealed by bacteriological examination, although some typical Donovan's bacilli were found.

Treatment.

The treatment by intravenous injections of antimony tartrate was suggested, but, owing to pressure of business, the patient was unwilling to go into hospital for treatment. Ordinary intramuscular injections of antimony tartrate were not contemplated, as I had just seen in consultation a marked case of the same disease in a Chinese woman, where antimony tartrate in saline solution, intramuscularly, had caused abscess formation at the seat of injection.

Local applications of various kinds were tried, with only slight improvement in the condition. At best the progress of the disease was merely checked. The application which was attended with best results was a solution of salicylic acid in ether (4 drachms to the ounce), combined with mercury perchloride (0.2 per cent.) in absolute alcohol—āā 1 oz. This reduced the granulations and dried up considerably the spreading open sore at the distal end of the ulcer. The application was painted on morning and evening.

November 4th. No further spread of ulcer, but no further healing. Antimony tartrate ointment was applied for two nights in succession, but the pain and subsequent discomfort, which lasted for hours, caused the patient so much distress and loss of sleep that it was at once discontinued. Salicylic acid in creosote ointment (gr. xxx to 1 oz.) was next tried, and applied regularly for several days, but the result was unsatisfactory. At the same time he was given ♏v to ♏xx of vinum antimoniale, in gradually increasing doses, internally three times a day.

November 14th. Healed part of scar appears larger and flattened out, about the size of a farthing. Unhealed part (distal) no larger, but not closing up. Looks like a crack with ragged, irregularly curved edges. A very little thin yellowish discharge present in the sore.

December 13th. A month later there was very little, if any, improvement. The depression scar appeared larger, but the open sore was still present and seemed to be increasing in length. This was typical of the complaint and sufficiently diagnostic.

On December 6th, 1919, Dr. Daniels, of the Colonial Office, called on me when he was passing through Shanghai, and, on mentioning this case to him, he suggested intramuscular injections of antiluetin. Unfortunately, this drug could not be procured locally, and the patient was still unwilling to go into hospital for a course of intravenous treatment.

January 12th, 1920. Whole scar on dorsum of glans penis was larger—a little bigger than a farthing. The unhealed distal crack was larger, with convex anterior edge. The whole appearance was now quite diagnostic of ulcerating granuloma. No other symptoms were present; no pain or enlarged glands. Discharge from urethra was slight and thin in consistency.

Treatment by Antimony Tartrate (Intramuscular).

The patient was becoming very disheartened at the apparent obstinacy of the condition and at the absence of complete healing. Just at this time I received from home the latest edition of Castellani and Chalmers's *Manual of Tropical Medicine*, and discovered there, under treatment for yaws and oriental sore (vide p. 2174), a formula for administering antimony tartrate by intramuscular injection without any unpleasant results. This had been used successfully in the treatment of yaws even in young children.

Castellani's No. 1 formula consists of antimony tartrate with carbolic acid and glycerin—for example:

℞ Tartar emetic	gr. viij
Acid. carbol.	♏ x
Glycerin	ʒ iij
Distilled water to	ʒ j

Dose: ½ to 1 c.cm.

He also recommends a solution by the mouth:

℞ Tartar emetic	gr. v
Sodii bicarb.	gr. xxx
Glycerin	ʒ j
Aq. chloroformi	ʒ ij
Aquae	ʒ iij

Dose: 2 to 4 drachms three times a day after food.

Castellani holds that these combinations of antimony tartrate prove comparatively non-irritant to the muscles (intramuscularly) and to the stomach (internally), and in my experience this proved to be the case.

January 14th. First intramuscular injection given—about 9 minims of Castellani's solution, equal to about gr. ¼ of antimony tartrate. This was followed by a slight bruised feeling, with some pain and stiffness in the hip and down as far as the knee, lasting for an hour. Later, the same evening, a transient rash came out on the thighs, like mosquito bites.

January 15th. He commenced taking the mixture, 2 drachms thrice daily. Each dose is roughly equal to gr. ⅛ of antimony tartrate—that is, gr. ⅜ daily.

On January 16th antimony tartrate gr. ⅛ was injected into the left hip; on the 18th and 20th gr. ⅛ into the right hip; and on the 22nd gr. ¼ into the right hip.

The left hip still remained a little swollen and tender on pressure after No. 2 injection on January 16th, but it was possible to go on injecting into the right hip without any unpleasant effects. The sore showed now, after the fourth injection, definite signs of healing. There was less thickening present at the edges and the appearance was healthier.

January 25th. Owing to an attack of influenza, further local treatment was postponed. The last injection was most painful of all. Right hip very tender. Still signs of healing locally. Raised border beginning to contract and flatten out, while the sore was drying up at the same time.

January 31st. Nine days since last injection. No pain or discomfort in either hip. Locally, sore healed, with exception of small area, about a quarter of an inch in length; whole area looks healthier and practically no discharge. Antimony tartrate gr. ⅛ was injected into the left hip.

On February 2nd antimony tartrate gr. ¼, and on the 4th gr. ⅛, was injected into the right hip. On the latter date there was only a tiny place about ⅛ in. unhealed; ulcer more shallow. On February 7th gr. ⅛ was injected into the right hip, and on the 10th the same amount into the left hip; the sore was clean, red, and healing well—less than ⅛ in. long. On the 14th, gr. ⅛ was injected into the right hip; sore almost healed; no pain or swelling in either hip.

February 16th. Small white pustule present on dorsum of glans penis, probably due to action of the drug. This dried up and disappeared in two days and there was no recurrence.

February 18th. Antimony tartrate gr. ⅛ was injected into the left hip. A small fissure of the sore was still present, unhealed. This was treated with strong solution of salicylic acid and mercury deep into the fissure and along the right rim of healed ulcer. On this occasion there was painful swelling of the glands in both groins, but not much enlargement. There was still a slight yellowish urethral discharge in the morning.

February 25th. Scar practically healed. Salicylic lotion painted on, as before. Two days later the scar showed only a slight redness of the edge, so the above lotion was again applied.

February 29th. Scar on penis completely healed and looking well. After this the antimony tartrate mixture, by mouth, was continued for another week. On this date, as the glands of the right groin were still enlarged, also very tense and tender, and as there was still a slight urethral discharge, the patient was put on a course of injections (subcutaneously behind the deltoid muscle of each arm alternately) of Neisser's serobacterin (Mulford), beginning with ¼ c.cm. and working up gradually to 1½ c.cm. until 5 c.cm. had been given. There was an interval of two to five days between each two injections, according to the amount of reaction present. At first douches of potassium permanganate were taken (1 in 4,000) twice daily, but after a week these were replaced by acriflavine douches of the same strength, with the result that the urethral discharge gradually disappeared.

April 28th. The penile sore remained healed, and the surface had assumed an almost normal appearance, except for a small shallow depression remaining to show where original sore had been.

June 17th. Nearly four months after actual healing of sore; no sign of any recurrence.

Undoubtedly the gonorrhoeal complication helped to aggravate the condition and retarded the healing of the ulcer. At the same time it is not unlikely that the antimony tartrate injections and the antimony tartrate taken by mouth helped to light up the old gonorrhoeal trouble. It is, however, unquestionable that the antimony tartrate was the only drug which had any effect upon the sore. Definite signs of healing were observed after the fourth injection, although the patient himself declared that he found improvement after the second injection.

All other local treatment was suspended while the injections were being given, with the exception of an antiseptic wash, night and morning, for the sore, followed by the application of a little dusting powder composed of equal parts of calomel, boracic acid, and iodoform, which had been previously used without the slightest effect.

Altogether, about 3 grains of antimony tartrate were injected intramuscularly over a period of thirty-six days. Only twelve injections were given. Castellani recommends ½ to 1 c.cm. as the dose of his No. 1 formula of antimony tartrate. I began with 9 minims (about ¼ gr. antimony tartrate), and gradually went up to 1.2 c.cm., or ⅓ gr. antimony tartrate, for the last five injections. By mouth, roughly 27 to 30 grains of antimony tartrate were taken over the same period. How much of the cure can be attributed to the oral administration of the drug is difficult to calculate, but it was noted that although the patient was taking 5 to 20 minims of antimony wine three times a day, in gradually increasing doses, from November 4th, 1919, to January 14th, 1920—a period of seventy-one days—without any appreciable effect on the condition of the sore, it is reasonable to conclude that only a very small amount of the drug, subsequently given by mouth, had any definite effect on the process of healing. On the other hand, very definite improvement took place after the fourth intramuscular injection, that is, before the drug given orally could have had time to have much constitutional effect. It is stated that:

"Antimony is slowly absorbed and is taken up from the blood and stored in the liver. It does not appear to have any important influence upon the corpuscles, but diminution in red cells, leucocytosis, and decrease of alkalinity have been recorded." Also, "it is excreted in the intestine, and by the liver, kidneys, and skin" (vide Bruce and Dilling, *Materia Medica*, p. 139).

Some authorities state that it causes peripheral vascular dilatation. Probably the latter action of the drug, a certain amount of leucocytosis, and that part of it excreted through the skin, were the chief sources of improvement in the local condition. The amount of the drug administered orally, acting in the above way, would naturally be infinitesimal, owing to the very slow absorption. Some authorities, among them being Greig and Curjel, consider that the condition is only benefited by large doses of antimony tartrate (1 to 3 grains intravenously). This may be where the disease is extensive and advanced. Other authors have reported cases of failure. The case of the Cantonese woman already referred to was a failure, but it was hardly a fair test case, as the disease was far advanced, involving the clitoris, vagina, the fourchette, both labia minora, and the right labium major. It was impossible to give intravenous injections, owing to the smallness and inaccessibility of the veins, while the intramuscular injections of antimony tartrate, in saline or distilled water (grain ½), caused several local abscesses, and had to be discontinued. Daniels stated to me that any improvement in such an advanced female case is very improbable.

Fortunately, the case here recorded was definitely localized, and neither advanced nor extensive; also, the progress of spread was extremely slow. It was an ideal case for the administration of the drug by the intramuscular route. The results were so satisfactory, and the cure so quickly attained by this method, that the report of the case may be the means of encouraging some others to use the same treatment. No doubt early cases—before the disease has got a firm hold, and where the ulcer is not extensive—will prove most amenable to the action of the drug intramuscularly.

With advanced and extensive cases it would be useless to treat them otherwise than by larger doses, by the intravenous route, over a more extended period, and in hospital, where the action of the drug and the condition of the patient can be observed carefully from day to day.

SEVEN CASES OF ESSENTIAL PENTOSURIA.

BY

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ALIMENTARY PENTOSURIA is not a very rare condition, particularly in summer when fruits containing arabinose are often eaten in considerable quantities, but essential or spontaneous pentosuria, which is not dependent upon the ingestion of pentose-containing foods, is exceedingly uncommon, some forty cases only being on record. Up to the present no example of the condition has been reported in this country, the published cases having all occurred in America or Germany. Last year we had the remarkable experience of meeting with seven cases, five of which were encountered in one month and the other two a few weeks later. Five of the cases proved to be examples of simple essential pentosuria, inactive arabinose being the only sugar present in the urine, in the other two small quantities of dextrose and pseudo-laevulose were found in addition. One of the patients with pure pentosuria had been treated for diabetes for twenty-six years, two had been dieted along orthodox lines for the same complaint without any improvement for several months, a fourth was referred to one of us as a case of lactosuria, presumably because the sugar in the urine did not ferment with yeast, and in the fifth the presence of sugar had been discovered accidentally, although its nature was not determined, previous to an operation. The remaining cases had been rejected for life insurance owing to the presence of glycosuria.

The majority of the cases of essential pentosuria hitherto described have been Germans, or of German or Russian descent, and a striking proportion have been Jews. Three of our cases were Jews, two were of Greek descent, but the others were purely English in birth and ancestry. A striking feature of the condition is its tendency to occur in several collaterals of a family, and some pentosuriacs have been members of diabetic families. Two of our patients, those of Greek descent, were father and son, but no history of glycosuria in any other member of the family could be obtained. Two of the Jews (Cases 4 and 6) were also related, being uncle and nephew. In this instance there was a family history of glycosuria, the father of the elder patient having been treated by the late Dr. Pavy for many years for diabetes, although he eventually died at the age of 67 from Bright's disease; a niece of the same patient and cousin of the other, consulted one of us and was found to be passing about 50 grams of sugar a day, the whole of which however was dextrose. The family histories of the other cases were free from diabetes or glycosuria, so far as could be ascertained. Six of the patients were males and one was a female. Their ages ranged from 19 to 75 years. These details, with the actual amount of sugar passed and the other more important results of the analyses of the urines, are shown in the following table (Table I). The data for Case 5 are incomplete, as only an odd specimen of the urine could be obtained for examination. The dextrose and pseudo-laevulose were estimated by the methods described by one of us in 1917[1] and the pentose by a modification of Jolles's process carried out as follows:

One hundred c.cm. of the urine are mixed with 150 c.cm. of hydrochloric acid (12 per cent.), and heated in a flask fitted with a reflux condenser for a quarter of an hour in a water-bath. The contents of the flask are subjected to steam distillation and 500 c.cm. of the distillate collected. Of this 100 c.cm. are neutralized with sodium hydrate (20 per cent.), using methyl orange as the indicator, and then made faintly acid by adding one or two drops of half normal acid. A measured quantity of normal sodium hydrogen sulphite is introduced, and the mixture left to stand for two hours. The excess of sulphite is then titrated with tenth normal iodine solution, using starch as the indicator. From the amount of sulphite consumed the percentage of pentose present can be calculated, each cubic centimetre of sulphite corresponding to 0.07595 gram of pentose.

Arabinose does not reduce copper salts as readily as dextrose, and, as the percentage of the sugar excreted in

TABLE I.—*Results of Analyses.*

Case.	Sex.	Nationality.	Age.	Urine.	Sp. gr.	Albumin.	Sugar.							Acetone.	Total Nitrogen.	Urea.	Uric Acid.	Amino-acid Nitrogen.	Indican.	Urobilin.
							Benedict's Test.	Bial's Test.	Rotation.	Fermentation.	Dextrose.	Pseudo-laevulose.	Pentose.							
				c.cm.							gms.	gms.	gms.		gms.	gms.	gms.	gms.	gms.	
1	M.	Greek	47	700	1030	0	+	+	±	0	0	0	2.4	0	8.9	17.2	0.42	0.15	0.007	++
2	M.	,,	22	1,000	1026	0	+	+	±	0	0	0	2.5	0	17.4	32.7	0.66	0 35	0.005	++
3	F.	English	75	800	1030	tr.	+	+	±	0	0	0	3.4	0	8.3	16.5	0.48	0.20	0.024	++
4	M.	Jew	19	1,400	1030	0	+	+	±	0	0	0	3.9	0	19.2	37.5	0.77	0.91	0.005	++
5	M.	,,	40	?	1025	0	+	+	±	0	0	0	?	0	—	—	—	—	—	++
6	M.	,,	48	1,600	1020	0	+	+	−	+	3.2	6 4	3.2	0	18.1	33.9	0.44	0.30	0.006	++
7	M.	English	32	800	1030	0	+	+	+	+	5.0	1.6	1 6	0	9.6	16.8	0.32	0.35	0.008	++

always small, a delayed reaction with a sudden change of colour—especially with Benedict's test—is suggestive. The best confirmatory test for routine diagnostic work is Bial's, but it may also give a reaction with an excess of glycuronic acid, and does not differentiate between the inactive arabinose of essential pentosuria and the l-arabinose of alimentary pentosuria. The results, therefore, need confirmation before a reliable diagnosis can be arrived at. With the help of the polariscope the dextro-rotatory l-arabinose may be distinguished from the inactive form, and a controlled fermentation test with yeast shows that the sugar does not ferment, but the most reliable data are obtained by preparing the p-bromphenylosazone and the diphenylhydrazone, and studying their melting points and rotatory powers. As will be seen from the table (Table I) the urine from all our cases gave a positive reaction with Bial's test. The five cases of pure pentosuria passed urine which did not rotate polarized light and did not ferment with yeast, but in the other two the urine was optically active, and formed gas when submitted to the action of yeast owing to the presence of other sugars. The results obtained with p-bromphenylhydrazine and diphenylhydrazine are shown in the following table (Table II). For comparison the standard results given by racemic or inactive arabinose and l-arabinose are also shown.

Owing to the limited amount of material available in some instances, and an inability to secure a further supply of diphenylhydrazine when our pre-war stock had been exhausted, we were unable to carry out all the tests in every case, or to obtain invariably a pure product for the determination of the melting-point, but the results as they stand are sufficiently exact to suggest that inactive arabinose was the pentose present in all; and that this was undoubtedly so in three of the cases is proved by our having been able to isolate the pure sugar and study its properties. The isolation was carried out by the following procedure.

Method.

The diphenylhydrazone was first prepared. The urine was thoroughly mixed with one-tenth its volume of a saturated solution of lead acetate, boiled and filtered. The filtrate was treated with sodium sulphate until the lead had been completely precipitated, and this precipitate was filtered off. The clear solution was now evaporated to one-third of its volume and twice this volume of alcohol added. After standing for two hours it was again filtered and the sugar present in the filtrate estimated. For each gram of sugar found to be present 1.4 gram of diphenylhydrazine hydrochloride and 1 gram of sodium acetate were added, and the mixture boiled in a water-bath, under a reflux condenser, for two hours. The crystals which appeared on cooling were filtered off and recrystallized two or three times from aqueous pyridine until a constant melting-point was obtained.

From this purified product the sugar was separated by the action of formalin. For each 3 grams of the diphenylhydrazone contained in a flask, there were added 12 c.cm. of formalin (40 per cent.) and 20 c.cm. of water. The contents of the flask were well shaken for an hour, and the flask was then heated on a water-bath for another hour. After cooling the solution was extracted with ether three times and evaporated down to a small bulk. On standing the sugar crystals separated out, and were purified by recrystallization from absolute alcohol.

The urine of three of our cases treated in this way yielded small white crystals which melted at 163-4° C., and in solution were optically inactive, thus corresponding to inactive arabinose. In order to prove that the sugar was actually arabinose, however, it was oxidized with bromine and the barium salt of the acid formed was prepared.

One gram of the sugar was dissolved in 10 c.cm. of water and 1 gram of bromine and 1 gram of barium carbonate added. The mixture was allowed to stand at the room temperature for three days, then boiled and filtered from the excess of carbonate. The barium salt was precipitated from the filtrate with absolute alcohol, filtered off, purified by recrystallization, and its barium content determined. This was found to work out at 36.9 per cent., a close approximation to the theoretical yield of 36.92 per cent. by barium arabonate, and thus proving that the sugar separated from the urine was arabinose. Further evidence in support of this conclusion was obtained by preparing the r-arabonalactone, which has a melting point of 98° C. One gram of the barium salt, prepared as above, was dissolved in 10 c.cm. of water and decomposed with a stream of carbon dioxide gas. The precipitated carbonate was filtered off and the filtrate evaporated on

TABLE II.—*Polarization and Melting Points.*

	p-bromphenylosazone.		p-bromphenylhydrazone.		Diphenylhydrazone.		Isolated Sugar.	
	M. P.	Rotation.	M. P.	Rotation.	M. P.	Rotation.	M. P.	Rotation.
L-Arabinose	196-200°	+	160-2°	+	216-8°	+	130-160°	+ 104-5
R-Arabinose	200-202°	±	160°	±	204-5°	±	163-164°	±
Case 1	202°	±	−	−	204°	±	−	−
Case 2	200°	±	−	−	203°	±	−	−
Case 3	202°	±	160°	±	205°	±	164°	±
Case 4	200°	±	−	−	200°	±	−	−
Case 5	200°	±	−	−	−	−	−	−
Case 6	200°	±	−	−	205°	±	163°	±
Case 7	200°	±	−	−	205°	±	164°	±

a water-bath to a small volume. On standing, hard white crystals separated out and were found to melt at 98° C.

Inactive arabinose is made up of equal parts of the dextro-rotatory and laevo-rotatory varieties, and although the difference in its optical activity and the rotatory powers, melting points, and solubilities of its derivatives are sufficient to distinguish it from these two sugars, the actual separation of its constituents furnishes the most conclusive proof of its composition. We therefore attempted to effect this, and were successful in isolating the laevo-rotatory sugar from one specimen and the dextro-rotatory sugar from another. The recovery of both from one sample was impossible owing to the small amount of material available.

Separation of Laevo-rotatory and Dextro-rotatory Sugar.

In order to obtain the laevo-rotatory sugar 1 gram of the r-arabonalactone, prepared as described above, was dissolved in water and mixed with a saturated solution of brucine, cooled, and the brucine salt filtered off. This was suspended in water, shaken with barium hydrate, filtered, and the filtrate extracted five times with ether to remove the excess of brucine. The watery solution was then decomposed with carbon dioxide and the resulting barium carbonate filtered off. The solution, which was now found to be dextro-rotatory, was evaporated on a water-bath, and the lactone which separated out was re-crystallized from alcohol. It was found to have a melting point of 95° C. On being dissolved in water and treated with sodium amalgam the lactone gave a sugar which yielded a phenylosazone with a melting point of 160° C., and 0.2 gram dissolved in pyridine-alcohol showed a specific rotation of + 1.10°, proving that the sugar was l-arabinose.

The dextro-rotatory moiety of the sugar was separated from another sample as follows: One gram of the purified sugar, prepared as before, was mixed with 1 gram of sodium acetate and 1 gram of l-menthyl-hydrazine and heated in a water-bath for two hours. On cooling, the product which separated out was recrystallized from alcohol, and found to have a melting point of 131° C., corresponding to d-arabinose-l-menthylhydrazone. From this the free sugar was separated by the action of formaldehyde. On preparing the phenylosazone it was found to have a melting point of 160° C., and 0.2 gram dissolved in pyridine-alcohol had a specific rotation of − 1.1°, corresponding to d-arabinose.

The source of origin of the inactive arabinose found in the urine in essential pentosuria has been the subject of much debate and many experiments. That it is not derived from the carbohydrates of the food is shown by the fact that their complete withdrawal has no influence on the excretion of the sugar in the urine. There is some evidence that it may be related to the proteins in the diet, however, for Klercher[2] found that the output varied considerably during the day and that there was a certain parallelism between the amount excreted and the total nitrogen content of the urine. Klercher and Janeway[3] also observed a diminished excretion on a purin-free and milk diet. Neuberg[4] has advanced the hypothesis that the parent substance may be galactose, and in support of this are the observations of Tintemann[5] and Klercher that a slight increase in the amount of pentose in the urine followed the administration of galactose or lactose, especially in the first few hours after the sugar was taken. Bial and Blumenthal, on the other hand, failed to find any such increase. We had the opportunity of carrying out a number of experiments bearing on this question on one of our patients who went into a nursing home for observation. In this case the administration of lactose on two occasions, once alone and later along with oatmeal porridge, milk, bread, and coffee, had no effect on the amount of arabinose appearing in the urine, even in the hours immediately succeeding the meal. When all carbohydrate food was withdrawn the excretion of the pentose was practically unchanged, but as the protein was diminished the output of pentose fell from 3.2 grams to 0.5 gram daily, and then gradually rose again to its former level as the protein intake was increased.

It is noteworthy that the urine of all our cases of pentosuria contained an excess of urobilin and showed a high excretion of amino-acid nitrogen, a combination which we have come to regard as indicative of defective functioning of the liver; moreover, in the case where continuous observation was possible, we found that the output of arabinose varied with the amount of urobilin and the quantity of amino-acid nitrogen excreted. We have also noticed that alimentary pentosuria has been associated with an excess of urobilin and a high amino-acid nitrogen in the urine. We are therefore inclined to conclude that pentosuria is dependent upon defects in the functional activity of the liver. In some cases it is probably due to a congenital, or possibly an acquired, abnormality, which results in the imperfect metabolism of a pentose of protein origin, thus giving rise to essential pentosuria, while in others it is merely an inability to destroy the pentose derived from foods containing it, with the result that alimentary pentosuria follows their use.

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A NOTE ON THE TREATMENT OF CUTANEOUS ERYSIPELAS WITH BRILLIANT GREEN.

BY

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ERYSIPELAS is a disease to which little attention is paid in these days, though formerly it used to be regarded with respect and even dread. Probably there are few diseases which have been treated in so many different ways or with so many different topical applications. During the war, when streptococcal infections of wounds were prevalent, it was not a very infrequent complication, but the prognosis rarely gave rise to anxiety, and isolation of erysipelas cases is not now regarded as essential for the well-being of other patients in the wards. The reason is not far to seek. To be logical all streptococcal infections should be segregated, and the fact that the infection has reached the superficial layers of the skin, and is therefore more apparent to the eye, is not a sufficient argument in favour of isolation. Furthermore, it is well known that, except at the extreme age periods of life, erysipelas is not a dangerous disease, and in previously healthy patients the mortality is very low. These patients may be very ill for a time, and the rash may spread almost all over the body, but with intelligent treatment and good nursing the outlook is almost always favourable, even when the lesion originates in connexion with a serious wound. With the abolition of sepsis in clean surgical wounds erysipelas has retired to a place of little importance. Cases, however, are still admitted to hospital in fair numbers, and at St. Thomas's they are taken into the isolation block reserved for obviously septic cases. During the last eighteen months I have been in charge of these beds in the hospital, and therefore I have had the opportunity of observing many examples of this disease and of comparing the relative merits of a large number of topical applications. It has enabled me to come to conclusions as to whether topical applications are of real value, and also which of the many in use may be relied upon to limit the disease and to ease the patient's distress.

In 1909 I published, in conjunction with Dr. P. N. Panton, some observations on erysipelas and allied infections,[1] in which we emphasized the facts that erysipelas is usually a streptococcal inflammation of the epidermis, but that the streptococci are of many different strains. From this, and by subsequent clinical observations, it is realized why the treatment of this condition by stock serums and vaccines is not conspicuously successful. Otherwise it would appear that such treatment ought to be efficacious. I have since been keenly on the look-out for any evidence that topical applications really influence the disease. It was at one time held that the extension of the rash in the skin could be limited by incisions outside the affected zone, by scarification, or painting a ring of silver nitrate around it, but these methods have all been abandoned owing to their lack of success. In some cases, at any rate, there is a coincident streptococcal lymphangitis, and this may account for failure. Perhaps such examples should be termed phlegmonous, or cellulo-cutaneous erysipelas, but anyhow these cases are difficult to separate from the purely cutaneous ones.

A whole legion of topical applications has been employed in the treatment of this disease; they have been used for two purposes—namely, to give comfort to the patient, and to limit the spread of the infection. The first is undoubtedly of importance since in some cases there is intolerable itching which disturbs the patient's rest, but the second is the supreme test of all local treatment.

Lard, boracoated lard, and numerous ointments with a paraffin basis have been used for this first purpose, and so also have carbolic and lead lotion, boracic and starch powder, and a host of other soothing applications. Each and all of them have met with a certain measure of success, but none of them appears to affect the course of the disease. It is well known that an attack of erysipelas usually runs a course of about six or seven days, though recrudescences and recurrences are common. There must be evidence that a local application, before it is accepted as being of any real value, has caused a rapid subsidence of the rash, and this will most often coincide with a fall of temperature. It is clinically impossible to recognize afebrile attacks of spreading erythema as being true erysipelas.

The applications of which I have had recent experience are a concentrated watery solution of magnesium sulphate, glycerin, glycerin and ichthyol, picric acid in methylated spirit, iodine in rectified spirit, and an aqueous solution of brilliant green. The first used to be a very fashionable remedy, but it gives little comfort to the patient, and I have never observed that it definitely influenced the progress of the disease. Glycerin itself, and a solution of ichthyol in glycerin, are perhaps more comforting, but I have no faith in their limiting power. Picric acid, iodine, and brilliant green I have tried in parallel cases of about the same degree of virulence, and my house-surgeons, as well as the nurses in charge of the cases, have all pronounced in favour of the last-named. The total number of cases is about 40, and we have not arrived at any conclusions as to the utility of any one remedy until at least 6 cases have been submitted to a trial of its powers. On several occasions, disappointed with the results of iodine or picric acid treatment, we have employed brilliant green with happier results, fully conscious that the time factor may have played an important part. Further, cases treated with brilliant green are the only ones where dramatic disappearance of both rash and fever as early as the second or third day of the disease has been observed.

These substances have been employed because they are well known as skin disinfectants, and they all possess undoubted power of penetration through healthy skin. How far they can penetrate skin which is in a state of inflammation is not known, but in the case of healthy skin Professor Dudgeon has kindly prepared sections from portions removed within two hours of the application of all these three substances, and has demonstrated to me the granules deposited among the deeper cells of the Malpighian layer. They appear to be more numerous in the case of brilliant green than with either picric acid or iodine, but, as the sections were unstained, it may be that these granules are more readily seen.

Tincture of iodine has been used in France for the treatment of erysipelas, and Basset and Lechelle[2] considered it superior to any other topical application. Their cases were only five in number and were all limb infections secondary to war wounds.

I do not know whether other surgeons have made use of brilliant green in this connexion, and I claim only to record a confirmed clinical impression as to its usefulness. To present scientific data is almost impossible since so much depends upon the stage of the infection when the patient first comes under treatment. Anything which is applied about the sixth or seventh day is likely to appear successful, for at this period the fever usually subsides and the rash ceases to spread or begins to fade. Nevertheless, since my observations have been fairly numerous and the cases have not been selected in any way, I have no hesitation in recommending this simple method of local treatment in erysipelas. I may add that in a dozen cases so treated the average time for subsidence of the attack was just over five days. There has been no mortality in the whole series, but I must admit that recrudescence occurred in two cases, once on the tenth and once on the twelfth day.

The obvious objection to the use of brilliant green is that it stains whatever it comes in contact with, whether it be the skin of the patient, the hands of the nurse, or the bedclothes. It may, then, be urged that this is treatment by camouflage, and that we really substitute a green skin for a red one. The fact that the patients, both women and men, like it even when applied to the face, and that the nurses have quite withdrawn their original objections to it, go far to answer these arguments, and, as far as I am aware, brilliant green possesses no toxic properties. Both iodine and picric acid are open to objection on this ground.

Our method has been to paint the affected area with a 5 per cent. aqueous solution once a day in mild cases and twice a day in severe ones. No dressing has been applied except a piece of lint on some parts of the body to prevent staining of the bedclothes. When the eruption has subsided the discoloration can be removed in three or four days by vigorous washing, preferably with ether soap. Possibly it would be wise to apply the solution over rather a wider area than that actually involved—for, say, an inch outside the advancing edge—but so far we have not done this.

I am indebted to the sister and nurses of our isolation wards, as well as to my recent house-surgeons, Messrs. Foss, Macdonald, Ryan, and Higgins, for their co-operation in testing the value of this treatment, and I may add that their opinion coincides entirely with mine.

REFERENCES.

[1] *Lancet*, October, 1909. [2] *Bull. et Mém. Soc. de Chir. de Paris*, 1918, xliv, 1468.

ON INTRAVENOUS PROTEIN THERAPY IN EPILEPSY.

BY

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PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY AND PROFESSOR OF MEDICINE AT THE UNIVERSITY OF BRISTOL.

THE good results which have followed the injection of foreign proteins into the blood stream in haemophilia, purpura, paroxysmal haemoglobinuria, intestinal haemorrhages, streptococcal septicaemia, asthma, and multiple arthritis of various kinds—that is, in a number of diseases which have no common etiological or pathological factors—suggested that possibly it might be used with good effect in yet other diseases.

The following results have been obtained in a series of twenty-three cases of epilepsy. Ten of these were treated at the Bristol Royal Infirmary, and thirteen at the Stoke Park Colony for mental defectives, by the kind permission of Dr. McMath, the medical attendant.

A 5 per cent. solution of Armour's peptone ("powdered," formerly called No. 2) was used, made up according to the prescription of Auld.* It was injected into a vein at the elbow once a week. The initial dose was 5 m. In succeeding weeks 7 m, 10 m, 15 m, and 20 m were given, unless toxic symptoms occurred. No dose greater than 20 m was injected. If a fortnight went by without the occurrence of a fit, the dose was not further increased. If no results were obtained after three doses of 20 m the treatment was given up. In four cases toxic symptoms were observed—rigor, vomiting, temporary pyrexia—either as an isolated phenomenon, or in any combination. If this happened the next dose was lessened. In such cases it was found that the dose could be subsequently increased to the old figure or even beyond without the occurrence of any untoward symptoms.

In three cases of post-hemiplegic epilepsy no improvement occurred.

In eleven cases of epilepsy without signs of any gross cerebral lesion no permanent arrest was produced. In four of these the fits ceased but subsequently recurred, though in lessened severity, and in two cases the frequency was lessened. The average age of the patients was 18 years, the average duration of the disease ten years, and the average frequency of fits once a week.

In nine cases of epilepsy without physical signs of any gross cerebral lesion the fits ceased. This arrest has now lasted more than a month in all cases, and in some as long as three months. Five of the patients were mentally defective—in one of these no mental improvement occurred, in three some improvment, and in one considerable improvement. The average number of injections given was 5½. The average age of the nine patients was

* That is, dissolve the peptone in three-fourths of the required volume of normal saline solution, shaking and warming to 37° C. Add 1 c.cm. of a 2 per cent. solution of sodium carbonate for each 5 grains of peptone present. Make up volume by adding more normal saline. Add phenol, so that its percentage in the solution is 0.25.

18 years, the average duration of the disease was ten years, and the average frequency of the fits rather more than one a week.

As can be seen, no distinction could be drawn between those cases in which arrest of the fits occurred and those in which it did not, either in the age at which the fits began or in their frequency.

It appears, therefore, that of 20 cases of epilepsy, of *haut mal* type, the intravenous administration of a peptone solution caused arrest of the fits in 9 and diminution of their frequency in a further 6.

No certain deductions can be made from such small numbers, but the results are sufficiently good to lead to the suggestion that this treatment might be tried in other cases. Both the nature of epilepsy and the mode of action of a "peptone" solution are so obscure that it would not be profitable to discuss how this arrest of epileptic fits was brought about. But though epilepsy does not cause many deaths, it does cause so much disability that any new method of treatment which promises well deserves a further trial.

EIGHTY-EIGHTH ANNUAL MEETING
OF THE
British Medical Association.
Held at Cambridge, June 30th to July 2nd.

SECTION OF NEUROLOGY AND PSYCHIATRY.

DEMONSTRATIONS.

THE PATHOLOGY OF DEMENTIA PRAECOX.

BY

Sir FREDERICK MOTT, K.B.E., M.D., LL.D., F.R.S.

FOR some years past I have been interested in the pathology of dementia praecox. First I investigated the reproductive organs, and I have already published in recent numbers of the BRITISH MEDICAL JOURNAL a paper on the investigation of the testes in 100 cases of deaths in hospitals and asylums at all ages from birth to 80 years and over. In this paper I have shown that in a large proportion of the cases of dementia praecox there is a complete arrest of spermatogenesis, and in all cases a more or less regressive atrophy is shown, the degree of change as a general rule depending upon the age at which the mental symptoms first were manifested, and the time elapsing between the onset and death. In some cases in which the clinical history showed that mental symptoms had occurred in the prepuberal or puberal periods spermatogenesis may never have occurred. Now, in spermatogenesis we have a most active nuclear proliferation going on continually, and the histological evidence shows that the nucleic acid, which is the principal substance of the nuclear matter, is formed from a phosphorized lipoid contained especially in the cells of Sertoli.

The head of the spermatozoon consists of a protamin nucleinate, and the tails, which are formed in these nurse cells of Sertoli, consist almost entirely of lecithin and cholesterol. I will not go into further details on this point, but I should like to point out that where active spermatogenesis is going on, there we find abundance of the lipoid granules; the same regions which show the existence of these lipoid granules also show the oxidase reaction. By this I mean that these granules play an important part in the chemical processes connected with the function of spermatogenesis. The oxygen on the surface of the lipoid granules is molecular oxygen, but in order to become nascent (chemically active oxygen) the molecule of O_2 must be converted into atomic oxygen, and this is effected by the catalytic action of the iron contained in the nuclei of the spermatic cells. A continued process of decomposition and recomposition, in which oxygen plays an important part in building up the fresh nuclear matter, takes place.

Nucleic acid, which forms the main constituent of the heads of the spermatozoa (as was shown by Miescher and Kossel's experiments), contains a large amount of organic phosphorus, iron, and calcium. All nuclei contain these three important elements in addition to the elements of a protein. The arrest of spermatogenesis may, then, be due to a failure of one or more of these elements in the circulating blood; or it may be due to an inherent biochemical lack of durability of the germ plasm.

The reason why I have given this short account of the failure of nuclear matter in the reproductive organs in dementia praecox—for it occurs in the ovaries as well as in the testes—is that the essential histological morbid change in the nervous elements of dementia praecox, as Nissl and Alzheimer pointed out long ago, is one of nuclear decay.

Nature is unmindful of the individual, mindful only of the species, for the body is only a vehicle for the germ plasm. During fetal life the hormone of the sex determinant cells is active in establishing sex characters; after birth till puberty all the productive vital energy is concentrated on the somatic cells to build up a body capable of fulfilling Nature's supreme biological end—reproduction. I showed that the interstitial cells forming a well-marked gland in the testes at birth in a few months shrink and become quiescent functionally; the spermatic tubules at three months have grown to twice the size of those at birth, and no further change of importance takes place till puberty, when the interstitial cells reappear and are filled with lipoid substance, and active spermatogenesis begins. Simultaneously with this concentration of productive energy on reproduction, the sexual hormone passes into the blood and produces the secondary sexual characters; at the same time it effects a complete mental revolution. At first there is a vague, ill-defined longing, and this develops sooner or later into an all-prevailing desire, arousing new sentiments, passion, and behaviour, with many biological characteristics peculiar to each sex. The critical periods of life as regards mental disease are adolescence and the climacteric periods of life, when the sexual function matures and wanes. This affords *a priori* evidence of the important relation between the sexual functions and diseases of the mind. The question naturally arises, Is the regressive atrophy of the reproductive organs the cause of the mental changes: (*a*) by its disturbing influence on the whole endocrine system of glands; (*b*) by the suppression of the normal sexual impulse, the great source of psychic energy; or (*c*) does the regressive atrophy of the testes and the neuronic functional decay indicate a germinal lack of durability of the two most important structures of the body?

The changes in the nervous system are unlike those of organic dementia—for example, dementia paralytica; there is no naked-eye wasting; there are no evidences of chronic inflammatory changes; the fibre systems are but slightly wasted. The changes* in the neurones are of two kinds: (1) those indicative of suppression of function—namely, swelling of the nucleus and biochemical changes in it, vacuolation, disappearance of the Nissl granules, and even destruction of the cytoplasm and its dendritic processes, without destruction of the axon; (2) those indicating hypofunction—namely, accumulation of lipoid granules in the cells of the cortex and basal ganglia and other structures of the central nervous system to an extent and degree exceeding by far physiological limits, for the same appearances may be found in old age, although the changes affect only scattered cells. The existence of these lipoid granules can be easily demonstrated by staining with Sudan 3 or Nile blue. All neural processes, and therefore all psychic processes, are dependent upon physiological processes—namely, oxidation processes which take place at the synapse in the grey matter, and, as in the testes, upon oxidase granules. These granules are found upon all the dendrites and body of the cell, but not upon the axon. They are especially abundant in the layers of the plexiform cells (second type of Golgi) which form the synaptic junctions of the cells of the first type, where the molecular oxygen is converted into active nascent atomic oxygen by the catalytic action of the phosphorus and iron of the nucleus. A progressive failure of function of the nucleus to build up new nuclear matter is the essential morbid change in the testis; similarly a progressive failure in the formation of the nuclear substance in neuronic systems may be postulated as the cause of suspension or suppression of neural function by a consequent failure in the oxidation processes essential for neural activity.

Sir Frederick Mott gave a demonstration by means of the epidiascope and microscopes to illustrate the changes in the testis and the various structures of the nervous system—namely, various regions of the cortex, the basal ganglia, pons, medulla, and inferior cervical ganglion. A case of monorchidy in a patient suffering with dementia praecox, with marked diminution in size of the adrenal

* A full account, with coloured illustrations, appeared in the June number of the *Proceedings* of the Royal Society of Medicine, Psychiatrical Section.

on the side of the absent testis, was described, and allusion was made to the evidence regarding the association of the cortex adrenalis with the function of reproduction. This case was illustrated by drawings and specimens of the testis and adrenal gland.

LETHARGIC ENCEPHALITIS.

CLINICAL ASPECTS.

BY

E. FARQUHAR BUZZARD, M.D., F.R.C.P.,
London.

DR. FARQUHAR BUZZARD spoke on certain clinical aspects of lethargic encephalitis, and pointed out that the name was unfortunate in that it presumed one of the many symptoms which any form of encephalitis might give rise to. It should be remembered that an inflammation of the encephalon could produce as many symptoms as there were functions of the brain. The tendency to attach importance to any particular symptom and to recognize different types of the disease answering to the predominance of this or that disturbance of function was to be deplored. Involuntary movements, for instance, had been observed in many cases from the beginning of the epidemic, and christening such cases as belonging to the "myoclonic type" was setting an example which, followed, would lead to an absurd situation. We should soon have as many types as there were cerebral functions. It would be more profitable to consider the variations in the onset and course of the disease and to admit at once that any symptoms indicative of a disturbance of a cerebral function might or might not be present. During the epidemic he had observed many mild or ambulatory cases which had been characterized by a general dulling of the higher intellectual faculties, and still more by the frequent complaint of diplopia. This did not indicate necessarily a peculiar incidence of the morbid process on the oculomotor nuclei. The explanation probably lay in the fact that there was no disturbance of function which so immediately revealed itself to a patient as that of the oculomotor apparatus. We could all suffer from slight deterioration in the activity and accuracy of our facial, masticating, articulating, and deglutitional movements without being painfully conscious of the fact. On the other hand, the slightest defect in the condition of an eye movement could not be overlooked.

Another question of interest was the significance of lethargy. This symptom only occurred in a certain proportion of cases, and could not be regarded, therefore, as a general as opposed to a focal phenomenon. In most cases of lethargy there is found some sluggishness or total abolition of the pupillary reflexes, and it seemed possible that lethargy was evidence of internal hydrocephalus, the result of occlusion or partial occlusion of the acqueduct of Sylvius. It did not seem unjustifiable to suppose that even a moderate amount of inflammation of the corpus quadrigeminal region would suffice to bring about this interference with the free circulation of the cerebro-spinal fluid. A similar condition was not infrequently produced by tumours in this situation. In fact, lethargy going on to stupor associated with disturbance of pupillary reflex activity was characteristic of tumours at the posterior end of the third ventricle.

Attention should be drawn to the great variation in the onset of this disease. Some cases were fulminant, and others appeared to develop slowly over periods as long as several weeks. Moreover, the disease varied much in its course. Relapses were not uncommon in acute cases, with a recrudescence of fever, headache, and even cutaneous rashes. Finally, emphasis should be laid on the appearance of fresh symptoms weeks and months after the acute stage of the disease had passed off. These generally took the form of involuntary movement, or an increase in the rigidity of limbs, which was not an uncommon legacy of the disease.

MORBID ANATOMY.

BY

J. G. GREENFIELD, M.B., M.R.C.P.,
Pathologist, National Hospital for the Paralysed and Epileptic, Queen Square.

DR. GREENFIELD showed a series of lantern slides illustrating the morbid anatomy of lethargic encephalitis.

The changes found in most early fatal cases were very diffuse and could usually be traced from the medulla to the cortex. Sometimes one part of the brain stem or cerebrum was especially damaged, but that was more an accident due to vascular occlusion than an essential feature of the disease. The most constant appearances were capillary dilatation and infiltration of the brain substance with small cells of the lymphocyte type, which were often grouped round the nerve cells as though attacking them (neuronophagy). These round cells could often be seen passing out from the walls of the capillaries. The appearance of "cuffing of the vessels," due to infiltration of the Virchow-Robin space with round cells, was very commonly seen, but was absent in many sections where other changes could be seen, and might only involve one or two vessels in the whole brain and brain stem. An excess of lipochrome pigment in the nerve cells was sometimes found, and when present was extraordinarily diffuse, affecting almost every nerve cell throughout the brain; its meaning was obscure. A comparatively common feature of the disease was infarction of the brain, due to thrombosis of smaller or larger arteries. Slides were shown illustrating infarction of the surface of the brain in one case and of the centrum ovale and basal ganglia in another. Slides were also shown illustrating calcareous and thrombotic changes in the vessel walls, which were sometimes found in cases of longer standing. The cerebro-spinal fluid in lethargic encephalitis was of very varied appearance and composition. In about 50 per cent. of cases no abnormality could be detected. Among the other 50 per cent. uniformly blood-stained fluids, or fluids with a yellow tinge from altered blood, were not uncommon, and the albumin, globulin, and cells might rise considerably. But in no case examined had either a fibrin clot or polymorphonuclear leucocytes been found. This formed a valuable diagnostic point in distinguishing lethargic encephalitis from polioencephalitis and tuberculous meningitis.

SENSORY DISTURBANCES IN THE HAND FOLLOWING INJURIES OF THE CEREBRAL CORTEX.

BY

HENRY HEAD, M.D., F.R.S.,
President of the Section,

AND

GEORGE RIDDOCH, M.D., M.R.C.P.,
First Assistant, Medical Unit, London Hospital.

WITH focal lesions in the post-central region of the cortex, after a sufficient length of time has elapsed for the lesion to become stationary, the disturbance of sensibility in the opposite hand is sometimes found to be confined to one or two fingers. A limited distribution of this kind was not uncommon after gunshot wounds of the head in the recent war, and was well illustrated in the three patients who were presented before the Section.

To ascertain the precise nature of the sensory loss produced by cortical injuries prolonged investigations with elaborate methods had to be carried out. Scientific research has revealed the significance of the different tests employed, and has indicated those which can be used to demonstrate the main features of the sensory disturbance in these cases with sufficient accuracy for the purposes of clinical diagnosis.

The patient is usually fully aware that something is wrong with his fingers, especially when those on the radial side of his hand are affected. For example, on being questioned he may say that his little and ring fingers are normal, but that something is wrong with his index and middle fingers. They feel different; he can use them, but they are clumsy.

On examination it is found that he responds correctly to tactile, thermal, and painful stimuli, but the intensity of the stimulus required to evoke a response from the affected parts may be increased. Thus he may be unable to recognize that he is being touched with a wisp of cotton-wool, but when it is moved over the surface of the skin, and especially if hairs are displaced, he responds at once. Again, the sensation evoked by a pin-prick may not seem so "sharp" or so "clear" as over normal parts, and at the same time the discomfort it produces may be increased.

Thus, although the crude recognition of touch, pain, heat and cold is never abolished as a result of a cortical lesion, yet sensibility is modified. To evoke a sensation a stronger stimulus has often to be applied to the affected than to the normal fingers. Further, the patient is frequently unable to appreciate differences in the intensity of stimuli of the same sensory quality—as, for example, between water at 26° and 40° C.

One of the commonest defects produced by a cerebral

lesion is want of recognition of posture and passive movements. This disturbance, when present, can usually be demonstrated by a simple test: Ask the patient to stretch out his arms in front with his fingers extended and to keep them in the same horizontal plane. If his eyes are then covered, those fingers in which recognition of posture is defective will be seen to droop while the others remain straight.

Hypotonia and inco-ordination are associated with loss of postural recognition, so that the fingers can be hyperextended more than the corresponding digits of the other hand, and their movements are clumsy. Lack of precision of movement can be detected at once when the patient attempts rapidly to oppose the tip of his thumb to each finger in succession. As soon as the first affected finger is reached the patient hesitates, performs the movement deliberately, and often misses the tip of his finger with his thumb.

The power of appreciating differences in weight and of recognizing the shape and relative size of common objects may be gravely disturbed. When the patient is tested for the appreciation of relative size and form, the loss of sensation not infrequently is so gross that he is quite unable to recognize the nature of common objects. A defect of this nature is always associated with inability to distinguish between two obviously dissimilar weights when they are placed successively on the fully supported fingers.

Thus the sensory activity of the cortex is not concerned with the crude recognition of touch, pain, heat, and cold, but it is necessary for the recognition of the intensity of stimuli, of spacial relations, and the appreciation of similarity and difference in external objects. Each of these functions may be disturbed independently of the others as the result of lesions of the cortex, and in the hand the sensory loss may be limited to one or more fingers.

DEGENERATION AND REGENERATION OF PERIPHERAL NERVES.

BY

J. G. GREENFIELD, M.B., M.R.C.P.

DR. GREENFIELD gave a demonstration on the degeneration and regeneration of peripheral nerves, based on the examination of portions of wounded nerves removed during operations for end-to-end suture.

The chief object of the demonstration was to emphasize the importance of the rôle played by the cells of the neurolemma sheath. These were seen to grow out from both the proximal and distal cut ends of a nerve, and to form in either case a plexiform neuroma or end bulb. That on the distal cut end contained no nerve fibres unless a junction was made with the nerve bulb of the proximal end. The axis-cylinders in the process of regeneration split up into very numerous branches, which run in all directions, often as leashes of several fibrils, within the outgrowths of neurolemma. If a junction is established between the upper and lower end bulbs, either directly or by means of outgrowths which spread along the connective tissue planes, the axis-cylinder processes may run into the outgrowths from the peripheral cut end of the nerve, and be conducted by them to the neurolemma channels of the peripheral part of the nerve, within which they always run singly. By these sheaths they are conducted to their terminations, whether sensory or motor. The intimate association displayed between the young axis-cylinder processes and the nuclei of the neurolemma sheath is strongly suggestive of a nutritive influence derived from the neurolemma, and it seems probable that without its help the axis-cylinder processes have not the power of continued growth.

INSCRIPTIONS OF SPEECH.

BY

EDWARD W. SCRIPTURE, M.D.

DR. SCRIPTURE demonstrated an apparatus for making inscriptions of speech. Typical results were exhibited that showed how general paralysis, multiple sclerosis, and epilepsy could be diagnosed from a speech inscription at a time when no defect could be detected by the ear. The object of the work is to do for certain nervous diseases what the urinary tests do for nephritis and diabetes.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BROMOFORM POISONING.

IN the *Practitioner* of 1893 I advocated the use of bromoform in the treatment of whooping-cough, and I am still of opinion that it controls the paroxysms of the disease more effectually than any other drug. Moreover, it is free from danger if one point in its administration is observed. Bromoform is thrown down from any solution or suspension if the least quantity of water is present. The water contained even in mucilage or tinctures precipitates the drug. In all cases of poisoning that have come to my notice the mishap has been invariably caused by the last dose in the bottle.

Mr. W. B. Watson's experience, published in the JOURNAL of November 6th, p. 702, is another instance of toxic symptoms from concentration of the bromoform at the bottom of the bottle.

The symptoms described by him and the child's recovery also agree with observations previously recorded.[1] For some years trouble was successfully prevented by the simple expedient of directing that the last dose in the bottle was to be always thrown away. But I now advise bromoform to be prescribed in a form arrived at by Mr. J. T. Corder, pharmacist, after trying and testing many others: Bromoform mj, paraffin. liq. ʒj, this being the ordinary dose for a child between 1 and 3 years of age. Even in dispensing this it is necessary to have the bottle thoroughly dried.

Norwich. F. W. BURTON-FANNING, M.D., F.R.C.P.

Reports of Societies.

LATENT SYPHILIS IN PREGNANCY.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on November 4th, a paper on the inter-relationship between pregnancy and syphilis was read by Dr. R. A. HENDRY. During four and a quarter years, he said, 94 pregnancies had been under observation in which there were no active clinical signs or symptoms of syphilis apart from the effect on the pregnancy. As this definition of latent syphilis excluded the primary and secondary stages, the first difficulty was diagnosis. Diagnosis rested on (1) the clinical evidence—that is, the unreliable history of infection and the obstetrical history, and on (2) the laboratory evidence resulting from the examination of stillbirths, abortions and placentae, and from the Wassermann reaction. The unreliability of the clinical evidence was shown by a table representing graphically 18 obstetrical histories, some syphilitic, others not syphilitic; and by an analysis of the first 57 cases diagnosed as latent syphilis, which revealed 48 abortions with 75 stillbirths—123 ante-natal and intra-natal deaths—with 96 live births, of which 33 subsequently died, 9 of the 33 during the neo-natal period. In the fetus the presence of *Spirochaeta pallida*, chondro-epiphysitis, changes in other organs—notably the liver, spleen, and lungs—were generally considered reliable evidence of syphilis; their absence, in his experience, was equally reliable. In early abortions this conclusive evidence of syphilis was rarely obtained. In placentae there was not yet unanimity regarding what constituted reliable evidence. The drawback was on the score of quantity rather than quality. The Wassermann reaction had been examined in 348 cases: 173 were positive, 175 negative. To the end of 1918, 65 were positive and 88 negative; from January, 1919, to July, 1920, 63 were positive, 87 were negative and 45 "slightly positive," these being of doubtful significance and usually disregarded by syphilologists until a further test could be made; the obstetrician could only delay treatment at the expense of the infant. Seven cases in which negative Wassermann reactions were associated with positive fetuses had been found, chiefly through investigations in the Department of Obstetrics of the University of Liverpool; three were examined

[1] BRITISH MEDICAL JOURNAL, May 26th, 1900; June 2nd, 1900; and May 18th, 1901.

during pregnancy, one was five days after labour, two were three or four months after labour, while the precise dates were lacking in the seventh. Even a "slightly positive" Wassermann reaction justified the institution of antisyphilitic treatment, but such cases should not be pressed to attend venereal clinics, as some were not syphilitic. The results of the treatment were shown in tables; 43 cases without treatment resulted in seven infants surviving after the neo-natal period; in 40 cases where treatment was instituted during pregnancy, twenty-nine infants survived—the treatment was begun in fifteen during the first four months and in fourteen during the second four months; of the 11 cases under treatment when pregnancy began, all the infants survived. Administrative difficulties prevented the use of arsenobenzol derivatives. Hydrarg. cum cretâ gr. j thrice daily was found satisfactory; grey oil, at first extensively used, was only retained in special cases after the first two years. All the credit for the 29 live births where treatment began during pregnancy could not be claimed for the treatment—*post hoc* not necessarily being *propter hoc*—none the less three living infants out of four was much better than one out of six without treatment. The 11 cases under treatment when pregnancy began had figured on the debit side of the earlier groups in previous pregnancies.

Dr. AMAND ROUTH said that the treatment of latent syphilis in pregnancy had two objects in view: to cure the mother and to prevent the child from being a congenital syphilitic. He alluded to the difficulties which had to be faced twenty years ago by those who had to treat syphilitic children born of apparently healthy mothers. Healthy children were born after giving the mothers mercury, if treatment were begun at the third month. Similar treatment was required in each subsequent pregnancy. The discoveries of the *Spirochaeta pallida* and the Wassermann reaction in 1905–6 made the diagnosis easier, but the unexpected negative reaction in certain groups of cases in both mothers and offspring during and immediately after pregnancy had not been satisfactorily explained. The opinion was now accepted by most observers that by some means the infection of syphilis was often held latent during pregnancy. To explain this "latency" the following facts and suggestions were advanced by Dr. Routh:[1]

1. As a result of spirillolysis, spontaneous or otherwise, the spirochaetes can be broken up into granules. These are infecting agents, being in fact spirochaetes in the granule stage. The granules are able to develop into the mature organism in a suitable environment, or may become biologically inactive and remain latent for varying periods.
2. Chorionic (syncytial) ferments are present during pregnancy at the point of interdigitation of the fetal and maternal portions of the placenta. Their action is primarily trophoblastic, to enable the delicate chorionic villi to penetrate the uterine mucosa, and to open up maternal blood vessels, so that the ovum may find for itself a resting place with nutritive blood spaces around it. As a result of the destructive action of the ferments upon maternal tissues, so-called syncytio-toxins are formed, but any excess appears to be at once neutralized by so-called syncytio-lysins. If not thus neutralized, maternal and fetal toxaemia may become present.
3. The chorionic ferments (or their derivatives) are suggested as being capable of exercising their destructive properties upon the infecting spirochaetes and to break them up into granules.
4. It is further suggested that during pregnancy it is the continued action of the chorionic ferments upon the granules which may render them latent and biologically inactive, and perhaps in a few cases may destroy them.
5. After the pregnancy, when the chorionic ferments gradually cease to be present in the tissues of the mother and child, the granules, unless already destroyed, may develop into mature spirochaetes.
6. The success or failure of the chorionic ferments to protect the mother and child from spirochaetal infection would depend upon (*a*) the virulence of the infection, which tends to diminish, owing to the presence of more maternal antibodies, with each successive pregnancy; and (*b*) upon the source of the infection, whether "mixed" from both parents; or maternal, in which case infection would be continuously present during pregnancy; or paternal, which might be a single infection, and would therefore be most easily controlled by the ferments.
7. The Wassermann reaction of mother and child appears to be negative if infection has been by the spirochaetes in their granule stage, so long as the granules remain biologically inactive and the mature organism is absent.

Dr. Routh showed how these suggestions tended to explain latent syphilis in pregnancy, and the negative Wassermann reaction in infected mothers and their offspring; the absence of mature spirochaetes in the abortions of syphilitic mothers; infections through the semen; intervening healthy children; and Colles's law.

Congenital syphilis, with its heavy infantile mortality, and the difficulty of its successful treatment, was briefly considered. The treatment of latent syphilis in pregnancy had been much facilitated by the discovery since 1909 of a series of chemical substances by which spirochaetes could be destroyed without injuring the tissues, with the result that prevention of congenital syphilis seemed within reach of attainment. Cases in which successful treatment of the pregnant mother was not begun till the seventh and eighth months of pregnancy were referred to as being presumably only possible if the *Spirochaeta pallida* had been granulosed and rendered latent, as already suggested. Lastly Dr. Routh insisted upon the importance of continuing treatment, or at all events supervision of both mother and child, and sometimes of the father.

Mr. JOHN ADAMS said it was just two years ago that he read a paper before the Obstetrical Section on the treatment of ante-natal and post-natal syphilis. At that time he was only able to give the results of one year's treatment, and a wish was then expressed that he should report the progress of these cases to the society at some future date. Accordingly, at the request of the senior honorary secretary, he now presented the table (printed below) summarizing the results of all cases treated during the past three years at the Thavies Inn Venereal Centre for Pregnant Women as far as it had been possible to follow them up. In his former paper he said: "I am aware that one year is too short a period in which to bring the treatment of ante-natal and post-natal syphilis to perfection, and that the treatment adopted to-day will be improved on to-morrow." This statement had been fully confirmed during the past two years. Mr. Adams had been able to follow up most of the cases, and to show, last November, to the Hunterian Society many of the babies up to two years old, all of whom appeared perfectly healthy and showed a negative Wassermann test. On one occasion only a baby showed a doubtful positive Wassermann reaction after once becoming negative. In each year the percentage of babies born with a negative Wassermann reaction had increased, as shown by the statistics given. He attributed this result to the more active treatment the mothers received before confinement, and the more general use of salvarsan in pregnant syphilitic women than formerly. He looked forward with confidence to seeing the wastage of infant life from syphilis almost come to a vanishing point in the future. At present it was doubtful if any disease, even tuberculosis, was so destructive to child life or so disastrous to child health as syphilis. Most of the mothers entered Thavies Inn at about the sixth month of pregnancy, having been sent there on a diagnosis of syphilis, made either on clinical evidence or on the Wassermann test. Some had been treated with mercury and arsenic and in consequence showed no obvious lesions, others had had no treatment whatever. Practically all were in the secondary stage of the disease. The results of treatment were most encouraging, though, of course, they varied with the period before confinement at which it was begun. In the last two years there had been only one stillbirth and one death from syphilis among the cases treated. Mr. Adams's experience had been that if the mother's Wassermann test could be brought to negative or doubtful at her confinement the baby would be born negative and show no sign

Results of Treatment of Women during Pregnancy and of the Newly-born Children. (Each year begins on September 1st and ends on August 31st.)

	1917–18.	1918–19.	1919–20.
Mothers admitted with syphilis ...	28	30	37
Babies born alive—			
Wassermann reaction positive	17	8	1
Wassermann reaction negative	6	21	36
Babies dying of syphilis	3*	1†	None
Fetus stillborn from syphilis ...	5	1	None

* Aged 3, 14, and 35 days respectively. † Aged 2 months.

[1] See also *Lancet*, January 12th, 1918.

of syphilis. If the mother were positive or strongly positive the baby would probably be positive too, in which case, of course, vigorous antisyphilitic treatment was begun at once. However, in a case at present under his care, in which a definite history was obtainable that infection took place about seven months after conception, and no treatment was given before confinement, the baby was born negative, although at the time the mother had generalized syphilis, as shown by a strongly positive Wassermann reaction. Cases of this kind opened up interesting questions as to the cause of the baby's immunity. None of the babies born negative had since become positive nor developed any signs of syphilis, though many had not had any treatment beyond the drugs they absorbed through their mother's milk. To summarize, it might be said that a pregnant woman with syphilis, whether active or latent, if treated for three or four months before her confinement, would probably be delivered of a healthy child at full term.

Mr. Charles Gibbs said that it was a pity that the treatment of syphilis in pregnancy should have been so neglected in the past; even now accommodation for such treatment was inadequate. He would like to congratulate Dr. Hendry on having obtained such good results with mercury, and amongst out-patients. Previous to the use of the Wassermann reaction it had always been difficult to know what to do with children born of syphilitic mothers, but apparently healthy themselves. His routine in these circumstances was to prescribe a three-years' course of mercury treatment. One of the surgeons at the Lock Hospital had been in the habit of leaving these cases untreated in the absence of any clinical indications of syphilis, and, as a rule, that surgeon had been justified in this course. Mr. Charles Gibbs himself thought it unnecessary to administer salvarsan to an infant free from clinical signs and with a negative Wassermann test. On the other hand, all infants showing signs of syphilis should be given arsenical treatment; he preferred the intravenous method, utilizing either the external jugular vein or the anterior fontanelle. The latter method of administration he had found especially useful. He considered that another important point was the administration of a full course of salvarsan to the mother during lactation. It was remarkable to see the increase in weight in a child in these circumstances. Amongst 100 cases of syphilis during pregnancy treated at the Lock Hospital eighty-seven showed secondary lesions, seven a primary lesion only, and one a tertiary. In 95 per cent. of cases, therefore, syphilis had been active rather than latent. In 84 per cent. the Wassermann test was positive. In 85 per cent. of these cases pregnancy had gone to full term; 86 per cent. of the children had been normal at birth, 5 per cent. showed syphilitic lesions, and 5 per cent. presented a wizened appearance but were otherwise free from signs of disease. Of the children born of these mothers, 97 per cent. gave a negative Wassermann reaction; the 3 per cent. that were at first positive soon became negative under treatment.

Mr. J. E. R. McDonagh said that the existence of granules as the result of breaking down of the spirochaete was difficult to prove. According to his own view, the organism of syphilis went through a definite sexual cycle. With regard to the Wassermann reaction, he thought that when its rationale was more fully understood less reliance would be placed on it as a diagnostic sign. In his opinion a syphilitic woman required treatment during every period of pregnancy, even although the father of her later children could be proved to be non-syphilitic.

Dr. Eardley Holland said that in his opinion the importance of syphilis as a cause of fetal death had been exaggerated. He believed he was right in saying (although he was relying on his memory only for his figures) that the Royal Commission on Venereal Diseases had come to the conclusion that 50 per cent. of fetal deaths were due to syphilis. This was certainly an exaggeration. He had examined 300 dead fetuses, and in only 37 of these had he found spirochaetes. The question at once presented itself as to whether these 37 cases in reality represented all the cases of fetal syphilis. He had therefore tried to find out what were the most reliable secondary attributes of syphilis in a fetus apart from the discovery of spirochaetes. The result of this investigation had shown the importance of the following: (1) The existence of chondro-epiphysitis; (2) the presence of a large spleen or liver; (3) signs in the placenta pathognomonic of syphilis. It was interesting to know that only six of the mothers in these 37 cases of fetal syphilis showed clinical signs of the disease; 21 of them gave a positive Wassermann reaction.

Mr. Kenneth Walker said that he had been much interested in Dr. Amand Routh's theory of the pathology of latent syphilis in pregnancy. Whilst it was possible to accept a great deal of what Dr. Routh had put forward, it was very necessary to exhibit caution in the matter. In the speaker's opinion the evidence that the organism of syphilis might exist in some other form than a spirochaete was overwhelming. When we failed to discover spirochaetes in the semen of syphilitic men, and yet knew from the clinical and experimental evidence that such semen was infective, the only conclusion that could be arrived at was that the organism of syphilis existed in a form other than that of a spirochaete. The same remark would apply to the fetus, and might explain the failure to find spirochaetes in syphilitic miscarriages. After a certain latent period these spores, or granules, would develop into the spirochaetes that were so readily found in the tissues of the syphilitic stillborn child. Whether the chorionic ferments had any inhibitory action on the organism of syphilis was an entirely different question. It seemed to the speaker that Dr. Amand Routh, anxious for the safety of the developing child, surrounded by all the horrors of spores and spirochaetes, had cast about for a good fairy; he had finally decided that the chorionic ferments must play this rôle. There was no direct evidence that the chorionic ferments acted in this way. As the spirochaetes could now be grown in culture, it would surely be possible to test the action of chorionic ferments on spirochaetes. If the speaker had been in search of a guardian angel he would have lit rather on the lipoids of the placenta. These must certainly have a strong protecting action against all infecting organisms. It was difficult to obtain reliable statistics as to the frequency with which a negative Wassermann reaction was obtained in syphilis in pregnancy. Out of 226 women attending a Buenos Aires maternity clinic and exhibiting clinical signs suspicious of syphilis, 116 had given a negative Wassermann. It was, however, difficult to feel sure that all of these suspicious cases were actually syphilitic, especially when it was remembered that these figures came from a country in which it might be said that an individual was regarded as syphilitic till he had proved himself otherwise. In any case the incidence of a negative Wassermann reaction would seem to be unusually high.

Dr. Ulysses Williams said that he had been investigating the *x*-ray appearance of stillborn children in order to find out whether radiography could assist in the diagnosis of syphilis. About 15 per cent. of the cases he had examined showed thickening of the epiphysial line characteristic of chondro-epiphysitis.

Dr. R. A. Hendry agreed with Dr. Eardley Holland that chondro-epiphysitis was practically pathognomonic of syphilis. In a few cases it was very difficult to be certain of the existence of chondro-epiphysitis, and in such cases radiography might be of service in showing the existence of rarefaction above the epiphysial line. In macerated specimens the head was firmer in consistency when syphilis had been the cause of death.

Dr. Amand Routh said that the difficulty of proving directly the action of chorionic ferments on the spirochaetes lay in the impossibility of isolating the ferments. The Commission on Venereal Diseases had come to the conclusion that between 20 and 25 per cent. of fetal deaths were due to syphilis. This would bring the annual mortality up to 27,000. He congratulated Mr. Adams on the results obtained at Thavies Inn.

Mr. John Adams agreed that much work would still have to be done on the placenta. He entered a plea for less dangerous methods of administration of salvarsan to infants than those advocated by Mr. Charles Gibbs. Personally, he preferred intramuscular to intravenous injections.

GLYCOSURIA AND DIABETES.

At a meeting of the Sheffield Medico-Chirurgical Society, held on October 28th, 1920, Professor Arthur Hall opened a discussion on "The prognosis and treatment of glycosuria and diabetes." A brief survey was first given of the more important events which during the last three centuries have contributed to the present knowledge of the subject. It was shown how much the clinician has depended on

the co-operation of workers in allied sciences, particularly chemistry and physiology, in the study of everything connected with diabetes. When towards the close of the eighteenth century Rollo published his essay advocating the reduction of carbohydrate intake, the clinician had gone as far as was then possible, and had perforce to wait until the chemist and the physiologist provided him with aids to further progress. At the present time the position was reversed; chemistry and physiology moved at such a rate that the clinician had difficulty in keeping pace with them. The experimental work of Allen was referred to and his general principles of treatment were outlined. The question of non-diabetic glycosuria was considered and the difficulties of diagnosis from diabetes in human subjects were pointed out. Not absence of symptoms, nor small quantity of sugar, nor intermittent occurrence, either severally or together, formed sufficient grounds for differential diagnosis. Allen's paradoxical law and diuretic tests were referred to as possible helps in diagnosis. The speaker gave it as his opinion that in any case of sugar in the urine the wisest course was "to consider it as guilty of being diabetes until it was proved innocent." Regarding the prognosis of diabetes mellitus, there were three broad groups of cases: (1) Those that progressed from bad to worse and ended fatally in spite of treatment. (2) Those that continued to live in more or less comfort until the full average term of life in spite of no treatment. (3) The intermediate cases; judicious treatment would keep them alive and well, injudicious or no treatment would hasten their end.

Efficient treatment at the present time was entirely dietetic; there was no drug treatment which had been proved to replace this or to approach it in importance.

Reference was made to the various views held since the days of Rollo as to what constitutes proper dietetic treatment. Up to quite recent years the general rule had been "Restrict carbohydrates; make up for the deficit by stuffing with other foods." Latterly it had been gradually realized that this was not satisfactory, and the formula of to-day, put forward among others, by Kuelz, Van Noorden, and Guelpa, and elaborated more recently by Allen, was "Restrict excess of all kinds of food." "Excess" was not any definite standard amount; it varied not only in each individual diabetic, but also from time to time in the same diabetic. Hence it was necessary by careful measurements to ascertain each diabetic's tolerance for various foodstuffs at frequent intervals, and to keep him below it.

The full and complete co-operation of the patient in his treatment was essential. Dietetic treatment of a diabetic demanded a more or less constant self-denial on his part, and such self-denial was not always easily secured amongst the hospital population. The early fasting and tolerance testing days could only be carried out satisfactorily in an institution fitted up for and accustomed to such routine. The after-treatment, which, to be effective, must continue for the rest of the patient's life, was the province of his own medical attendant, and, although less elaborate, required much care and trouble, and, above all, a complete understanding of underlying principles concerned.

Dr. BARNES thought that strict fasting was in many cases unnecessary, and even when carried out under skilled observation not always free from danger of acidosis. He had since 1912 been in the habit of using a very low calorie diet comparatively rich in carbohydrates. Oatmeal had been found very useful; it was cheap, uniform, and in the form of biscuits could be used as a bread substitute. As a safety diet to be used when there was a diacetic reaction, he recommended about 4 oz. of oatmeal with some twice boiled cabbage. On this diet in a few days the average case became aglycosuric and lost the diacetic reaction. A single fast day would then suffice to free the urine from sugar, or, if it was already free, to bring the blood sugar down to reasonable limits. For testing carbohydrate tolerance he used oatmeal with a relatively small quantity of vegetable because the latter appeared, in the absence of figures relating to respiratory exchange, to introduce many unknown factors depending on cooking, personal variations in cellulose utilization, etc. He also put the patient on a minimum Chittenden protein allowance (1 gram per kilo of the body weight) during the tolerance test. The chief difficulty lay in the maintenance diet; the difficulties experienced in inducing the patient to adhere to the limited diet were diminished by teaching him to test his own urine, and emphasizing to him the imperative necessity of his remaining thin. One might tell him that the lean and hungry diabetic dog lived indefinitely and the plump one died; one might also advise him to give all samples of diabetic food to the dog and burn their advertisements.

Dr. SKINNER said that in conditions of acidosis, where the alveolar CO_2 tension was upset, it seemed reasonable to suppose that a difference would appear in the "acidity" of the urine, which, according to Professor Leathes, was related to the alveolar CO_2 tension. Observations on two cases of diabetes with acidosis bore out this supposition, in so far as both cases showed a variation from the normal acidity in the direction of lessened acidity during the night with a gradual tendency to increased acidity during the forenoon—the converse of the normal reaction.

THE first meeting of the Pathological Section of the Liverpool Medical Institution was held on November 4th, with Dr. J. E. GEMMELL, the President, in the chair. Dr. E. CRONIN LOWE read a note on "Metastases in bone from a case of renal hypernephroma," illustrated by coloured drawings. The secondary growths occurred in one humerus and both femora, in each case causing spontaneous fracture. Death occurred eleven years after the initial symptom of haematuria. Unfortunately the necropsy was only partial, and the primary growth was unobtainable. The secondary growths, however, showed the typical arrangement of cells as seen in a renal tumour. Drs. A. D. and P. M. BIGLAND read a paper on cerebro-spinal fluid examinations, with special reference to neuro-syphilis, based upon 180 cases. After a brief allusion to the history of the subject the authors discussed the procedure of lumbar puncture. They advocated the sitting posture, the use of a White-Jeanselme needle, and the mid-line insertion between the third and fourth lumbar vertebrae. The patient should remain recumbent for twenty-four hours after the puncture to avoid or lessen epidural leaking of spinal fluid, which appears to be the cause of the resulting headache. The various tests were demonstrated, including Lange's colloidal gold reaction. Tables were shown giving the different results of the tests in the various types of neuro-syphilis, and great stress was laid upon the importance of only relying upon the combined findings of all the tests. The authors deduced the following results from their work, and based their conclusions upon *post-mortem* findings and clinical facts. They stated that (1) no case having a similarity to the usual forms of neuro-syphilis should be regarded as such without laboratory proof; (2) no case with a positive serum Wassermann reaction, or with a history of syphilis together with nervous symptoms, should be diagnosed as neuro-syphilis until proved so; (3) a negative Wassermann reaction in the blood does not exclude neuro-syphilis.

Reviews.

TUBERCULOSIS OF THE LUNGS.

WE welcome the appearance of the second edition of Dr. MAURICE FISHBERG'S textbook on *Pulmonary Tuberculosis*,[1] a well written and up-to-date volume that provides the medical practitioner with a first-rate account of all aspects of tuberculosis of the lungs. It contains forty-four chapters; the first five give an account of the tubercle bacillus, infection, phthisiogenesis, and the epidemiology of tuberculosis. Next follows a short but adequate description of the pathology and morbid anatomy of phthisis. The next seven chapters deal with the symptoms of pulmonary tuberculosis, and are followed by sixty pages on the examination of the patients. Phthisis and its complications occupy the middle part of the volume; the various forms of treatment receive very full and critical consideration in the last two hundred pages.

An experience of over twenty years with the tuberculosis problems in New York City has crystallized a number of very definite conclusions in Dr. Fishberg's mind. He holds that the physician can and should recognize phthisis in its earliest or pretuberculous stage, on the strength of the general symptoms of the disease, and at once consign the patient to a sanatorium, though he is careful to point out that institutional treatment is not the only effective method

[1] *Pulmonary Tuberculosis.* By Maurice Fishberg, M.D., Clinical Professor of Medicine, New York University and Bellevue Hospital Medical College, etc. Second edition, revised and enlarged. Philadelphia and New York: Lea and Febiger. (Med. 8vo, pp. 744; 100 figures, 25 plates. 6.50 dols.)

of dealing with the tuberculous patient. Indeed, he is of opinion that "careful home treatment is productive of practically the same immediate and ultimate results as institutional treatment, and is less costly to the patient and to the community." He points out that in America the available institutions could hardly accommodate 10 per cent. of the phthisical inhabitants, and no doubt much the same state of affairs obtains in our own country also. It is therefore satisfactory to find that his experience leads him to believe that sanatorium treatment, excellent as it is, has definite limitations, and is not indispensable for the cure of consumption of the lungs. He lays considerable stress on the fact that while the very great majority of persons acquire tuberculous infection of the lungs in youth, nine out of ten of them recover, and only the remaining one develops "pulmonary tuberculosis" in such a form as to require treatment. He therefore distinguishes between "infection" and "disease," or between "tuberculosis" and "phthisis." Some such distinction should certainly be drawn; but we doubt whether the choice of the terms "tuberculosis" and "phthisis" for the purpose of contrasting the one with the other is happily made. Possibly it would be better to say that the nine individuals mentioned above had suffered from "pathological tuberculosis," for it is recognizable only in the *post-mortem* room, and the tenth from "clinical tuberculosis." Another point on which Dr. Fishberg lays emphasis is the fact that "'incipient' does not always mean *curable* tuberculosis, and, conversely that 'advanced' disease does not necessarily indicate a hopeless outlook." In his chapters on treatment the author has a good deal to say on the subject of medicinal treatment, which he credits with more efficacy in many cases than do the therapeutic nihilists; he also gives a good description of the pneumothorax treatment of pulmonary tuberculosis.

The author writes with easy competence but no undue dogmatism, and has made ample use of the more recent literature of the subjects with which he deals; his style is direct and clear, and it is plain that it is the practical questions rather than the theoretical that most attract his attention in matters bearing on phthisis. It is natural that in so large a volume as this there should be passages with which many practitioners of medicine will find it hard to agree. On page 273, for example, he states that "Palpation for the vocal fremitus is of no diagnostic value in any stage of phthisis, excepting in cases where pleural effusions are suspected. But it is often absent in thickened pleura and thus is not of great assistance in our attempts at differentiating the latter from an effusion." Surely this is a libel on the art of palpation! Dr. Fishberg deals severely with tuberculin treatment, though not unjustly, and lays great stress on the psychotherapeutic treatment of all phthisical persons, to which in one form or another they habitually respond well.

We can recommend his book strongly to all medical men and senior students of medicine in search of a thoroughly sound, well informed, and comprehensive text-book of tuberculosis of the lungs, its etiology, diagnosis, complications, and treatment. It is by far the best work on the subject with which we are acquainted in any language.

OBSTETRICS.

THE first edition of *Midwifery*,[2] by Ten Teachers, has been exhausted in a little over three years, and a second revised and enlarged one has just been issued. The principal additions appear to be chapters on ante-natal hygiene, on the chemical pathology of the toxaemia of pregnancy, and on the management of breast feeding along the lines advocated by Dr. Truby King. There is also an addendum on the estimation of renal efficiency. The authors hope that these additions will increase the usefulness of the book to the students for whom it is written. The change in this edition most obvious to the ordinary reader is an increase of some seventy pages in its length and of more than ½ lb. in its weight. When a book comes to weigh over 4 lb. its value as a students' textbook is imperilled, and it is apt to become merely a book of reference. It used to be said of Syme's book on surgery that each edition was not only better but also smaller than its predecessor. Doubtless the power of avoiding all that is unnecessary is more than evidence of complete mastery of one's subject; it is a mark of a complete mastery of *teaching* the subject that amounts almost to genius. At any rate, its rarity amongst the authors of present-day textbooks is remarkable, and perhaps the last place in which one would reasonably look for it is in a co-operative society such as is responsible for the volume under review. The additions appear to us of unequal merit. The chapter on ante-natal hygiene contains nothing that might not equally well be introduced as a paragraph in the preceding chapter, and its value is not greatly increased by the devotion of two pages to a specimen of the schedule used at a pre-maternity centre. The chapters on protein metabolism and on the oxidation of fats and their modification in acidosis are excellently lucid, and will undoubtedly be useful to both students and practitioners. The chapter on infant feeding is good, but hardly sufficiently clear in regard to detail for students or young practitioners. The directions in such a chapter ought to be as exact and full as those on the tin of a patent food. The addendum on modern biochemical methods of testing renal efficiency seems to us quite out of place, and more suited to a book on clinical methods than a textbook of midwifery; but when all is said, the book remains an exceedingly clear, sound, and practical, if necessarily rather unequal, presentment of obstetrics, whose avoirdupois will be more than counterbalanced by the weight of authority carried by its authors' names. We predict a useful career for it, and commend it sincerely and confidently to students and to practitioners.

Professor HERBERT SPENCER has published his Lettsomian Lectures on *Tumours Complicating Pregnancy, Labour, and the Puerperium*[3] in a small volume. As the lectures were reported in our columns at the time of their delivery to the Medical Society of London, and were also reviewed at that time, it is unnecessary to discuss them here. It is satisfactory to have them in this accessible new form, as they unquestionably represent the most recent and authoritative teaching on a subject of great practical importance in midwifery.

BERKELEY and BONNEY'S *Difficulties and Emergencies of Obstetric Practice*[4] is a book so well calculated to be useful to practitioners that it is not surprising to find it blossoming into a third edition. Every thinkable complication of pregnancy, parturition, and the puerperium is discussed with complete clarity from a practical point of view. When this has been said little need be added. We should, however, like to mention specially the chapter on infant feeding by Dr. H. C. Cameron, which has been written for this edition and is a model of perspicuity and common sense. It will undoubtedly enhance the value of the book to many readers. We congratulate the authors unreservedly on this volume.

Three editions in some four years is a sufficient index of the general appreciation of Professor SHEARS'S *Obstetrics, Normal and Operative*.[5] The latest edition is revised and edited by Dr. P. F. WILLIAMS of Philadelphia, and has been brought up to date in such sections as the metabolism of pregnancy, syphilis in pregnancy, anaesthesia in labour, and Caesarean section. Dr. Williams has succeeded in retaining the note of confident individuality which characterized the book, and has no doubt contributed to its deserved success; we are, however, glad to note that he has toned down some of the remarks which we were compelled to criticize adversely in the previous editions. Dr. Williams gives a very balanced statement as to the value of nitrous oxide–oxygen anaesthesia in labour, which is being largely tried in America at present. The account of the pathology of the toxaemia of pregnancy is not quite up to date, and the author adheres to his view that suboxidation is an important factor in the causation of

[2] *Midwifery*. By Ten Teachers. Edited by Comyns Berkeley, H. Russell Andrews, and J. S. Fairbairn. London: Edward Arnold. 1920. (Med. 8vo, pp. 782; 303 figures. 30s. net.)

[3] *Tumours Complicating Pregnancy, Labour, and the Puerperium*. By Herbert R. Spencer, M.D., B.S.Lond., F.R.C.P. London: Harrison and Sons. 1920. (Demy 8vo, pp. 78; 28 figures. 5s. net.)

[4] *The Difficulties and Emergencies of Obstetric Practice*. By Comyns Berkeley, M.A., M.D., M.Ch., F.R.C.P., and Victor Bonney, M.S., M.D., B.Sc., F.R.C.S., F.R.C.P. Third edition. London: J. and A. Churchill. 1920. (Roy. 8vo, pp. 321; 309 figures. 42s. net.)

[5] *Obstetrics, Normal and Operative*. By G. P. Shears, B.S., M.D. Third edition, revised by P. F. Williams, Ph.B., M.D., Instructor in Obstetrics, University of Pennsylvania. Philadelphia and London: J. B. Lippincott Company. 1920. (Roy. 8vo, pp. 767; 419 figures. 35s. net.)

the symptoms. Most obstetricians will agree with Dr. Williams in his criticism of Professor Shears's advocacy of early version in occipito-posterior cases. In regard to the use of forceps in persistent cases, we have found frank rotation of the head by forceps, after the plan described two centuries ago by Smellie, preferable to the combination of rotation and pulling advised by the author. We congratulate the author and editor on their work, which forms a contribution of high practical value to the literature of modern obstetrics.

BACTERIOLOGY.

THE atlas and textbook of bacteriology by LEHMANN and NEUMANN,[6] a sixth edition of which has appeared recently in Munich, differs from most works on bacteriology in that it gives in readily accessible form a review of non-pathogenic as well as pathogenic bacteria. Hence it is a valuable reference book for those concerned with the identification of bacterial species, and will continue to be consulted until a more critical work fulfilling the same purpose is available in the English language. The present edition is a reprint of the fifth, with the addition of an appendix of about seventy pages, which is intended to cover the most important advances in bacteriological diagnosis since the last issue seven years before. The appendix can scarcely be said to fulfil this aim in a comprehensive fashion, except in so far as advances in the authors' own country are concerned. Almquist's views on the life-cycle of bacteria are well epitomized, but there is no reference to the important recent work of French and British bacteriologists on the anaerobic bacteria associated with gas gangrene. Again, no reference is made to the occurrence of rickettsia bodies in connexion with trench fever, or to such a practically valuable method as the glycerin preservation of faeces for delayed examination in cases of suspected enterica and dysentery.

SPECIMENS FOR THE LABORATORY.

The Link between the Practitioner and the Laboratory,[7] by Drs. FLETCHER and MCLEAN, is a handy little pocket book, designed to indicate the various ways in which a laboratory of a certain type can be of use to the general practitioner. It also deals with the methods by which material for examination can be obtained and transmitted to the laboratory, and states within what period of time a report may reasonably be expected in reply. A brief summary of vaccine and serum therapy is appended. The book will be particularly useful to those who wish to use what are known as long-range pathological laboratories. If the directions would appear at times unnecessarily full, those who deal with specimens sent by post will know only too well the faults frequently committed by those who should be better acquainted with the requirements of the laboratory expert. The increasing efficiency in practical pathological teaching and the spread of laboratories throughout the country will doubtless before very long render such directions to a large extent unnecessary. For the present, however, long-range pathology and bacteriology must exist, and, as already said, this is a most excellent guide for the use of the busy practitioner. Though not strictly a scientific work, it will be deservedly welcomed as an unpretentious little book of considerable merit and utility.

BEAUTY AND BETTERMENT.

PROFESSOR KNIGHT DUNLAP'S small book on *Personal Beauty and Racial Betterment*[8] is a clear and outspoken statement that demands serious attention from all, and especially from eugenists and medical men. The conservation of beauty is *the* problem of the present day and of all time, for, as human beauty is the sign of fitness to propagate children able in a high degree to hold their own in the struggle of life, it is also the problem of racial betterment. The first half of Professor Knight Dunlap's message is, under the heading of the significance of beauty, devoted to a detailed analysis of the characters of beauty, and naturally reference is made to the bearings of physiology. The relations of the endocrine and sexual glands to the growth of hair are touched upon, and he epigrammatically insists that baldness is a fatal bar to beauty both in the male and in the female. Beauty is summed up as the sign and expression of the potentiality of the individual, not of what he has done or is doing, but of what he is capable of doing for the race as a parent.

In the second part—on the conservation of beauty—the question of elimination of the unfit is considered on broad-minded lines; at present the possibility of systematic legal sterilization is rejected; any move in this direction must depend on publicity and the movement of public opinion. The dissemination of knowledge about hygienic means of preventing conception is advocated to reduce multiplication among the less desirable, and so to favour a relatively higher birth rate among the best specimens of the race. The author speaks in very strong terms about rich married women who luxuriously avoid motherhood, and says that they are more properly and accurately designated as hetairae. Of prostitution, which has developed with civilization as a result of social maladjustment, the only beneficial effect is shown to be some diminution in the reproduction of the feeble-minded. Attention may be called to the picturesque and admirable dictum that "if, by the concerted efforts of the Governments of the world, venereal diseases could be finally stamped out, no events in the Christian era would be worthy to rank with this accomplishment except the defeat of the Mohammedans by Charles Martel, and the defeat of the followers of the 'good old German God' by Foch."

NOTES ON BOOKS.

BOTH to chairmen and to those over whom they preside a small book, *How to Conduct a Meeting*,[9] by JOHN RIGG, will be welcome, for all who attend meetings should know the right procedure. The conduct of debate; promotion of order; limitation of debate, either by standing orders or by special vote, are explained and, when needful, illustrated. "The previous question" ("a form of parliamentary procedure," says Mr. Rigg, "seldom used and little understood") is clearly described. The object of this procedure is plain; but we think, judging from the confusion of mind produced in meetings when the "Question" has been moved, that, in general, it is well to avoid its use. An important chapter is devoted to "Motions and amendments," preference again being given to the parliamentary procedure; but it is fairly arguable that the mode common outside Parliament of giving precedence to amendments may be recommended. Hints on committee work complete Part I. Part II contains model standing orders and rules which, if more full than may be generally needed, are good as a guide. It is altogether a compact and useful little work.

The Centenary Volume of Charles Griffin and Company, Ltd., Publishers,[10] by eleven contributors, is introduced by Lord MOULTON, who points out that early in its career this enterprising firm adopted the policy of producing technological works of all kinds as well as valuable scientific treatises mainly associated with industrial problems, and has thus done good service to the nation by raising the standard of our technology. Over 90 per cent. of the firm's publications are technical and scientific textbooks, manuals, and monographs, and the progress marked by these publications during the last 100 years is described by various authorities: thus Professor T. Hudson Beare writes on engineering, Sir W. S. Abell on naval architecture, Professor W. Gowland on metallurgical, assaying, and associated work, Professor H. Louis on mining, and Dr. H. H. Hodgson on chemical technology. The last chapter in the book, on medical, hygiene, and sanitation textbooks,

[6] *Atlas und Grundriss der Bakteriologie und Lehrbuch der Speziellen Bakterio ogischen Diagnostik.* Teil I, Atlas; Teil II, Text. Von Professor Dr. K. B. Lehmann, Direktor des Hygienischen Institutes in Würzburg, und Professor Dr. Med. et Phil. R. O. Neumann, Direktor des Hygienischen Institutes in Bonn. 6 Auflage. Durch einen Nachtrag ergänzter Neudruck der 5 Auflage. München; J. F. Lehmanns Verlag. 1920. (Cr. 8vo, pp. 861; 79 plates, 24 figures. M. 60.)

[7] *The Link between the Practitioner and the Laboratory.* A Guide to the Practitioner in his Relations with the Pathological Laboratory. By Cavendish Fletcher, M.B., B.S., and Hugh McLean, B.A., B.C., D.P.H. London: H. K. Lewis and Co., Ltd. 1920. (Cr. 8vo, pp. 91; 5 diagrams.)

[8] *Personal Beauty and Racial Betterment.* By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. London: Henry Kimpton. 1920. (Post 8vo, pp. 95. 6s. net.)

[9] *How to Conduct a Meeting. Standing Orders and Rules of Debate.* By John Rigg. London: George Allen and Unwin, Ltd. 1920. (Post 8vo, pp. 87. 2s. 6d. net.)

[10] *The Centenary Volume of Charles Griffin and Company, Ltd.* With a foreword by Lord Moulton, P.C., G.B.E., K.C.B., F.R.S. London: Charles Griffin and Co., Ltd. 1920. (Med. 8vo, pp. 310; illustrated.)

by a contributor disguised as "Medico, M.A., M.D., M.R.C.P., etc.," gives an interesting account of the numerous well-known books brought out by the firm; though often urged to revise his *Human Anatomy* for a second edition the late Professor A. Macalister was never able to reduce his voluminous record to a sequence for publication; the late Sir Victor Horsley, whose latest photograph is inserted, was to have contributed a systematic work on brain surgery, but unfortunately this was never accomplished. The history of Griffin's, from its start in Glasgow in 1820, is attractively told in a volume beautifully got up and generously and successfully illustrated.

The Harrow Life of Henry Montagu Butler, D.D.,[11] by Mr. EDWARD GRAHAM, is an extremely interesting biography of a gifted and gracious character. The son of a head master of Harrow, he carried all before him as a boy there, and after an interval of eight years, mainly at Cambridge, he returned as head master in 1860, at the early age of 26. After twenty-five years' successful work he became Dean of Gloucester, and soon afterwards Master of Trinity; but this aspect of his life will be described in a further volume. In early life he was a delicate boy and his heart was thought to be weak, so that, though he won the match against Eton in 1851 by making 41 runs, he had a boy to run for him; yet he climbed mountains with energy and apparently without harm. When 64 years old he had an attack of angina pectoris, but survived to die at the advanced age of 84 from quite other causes. There is a specially charming introductory chapter by his schoolfellow, Sir George O. Trevelyan.

[11] *The Harrow Life of Henry Montagu Butler, D.D., Head Master of Harrow School (1860–1885); Master of Trinity College, Cambridge (1886–1918).* By Edward Graham. With an introductory chapter by Sir George O. Trevelyan, Bt., O.M. London: Longmans, Green and Co. 1920. (Demy 8vo, pp. 472; 8 illustrations. 21s. net.)

VENEREAL DISEASE PROPHYLAXIS.

THE unofficial National Birth Rate Commission has appointed a special committee to inquire into certain aspects of venereal disease. The terms of reference are to consider the following questions:

1. Whether sexual continence before marriage is consistent with normal health.
2. Whether self-disinfection as a method of preventing the development of venereal disease in persons who have exposed themselves to the risk of infection is more efficient or less efficient than medical treatment at venereal clinics and early treatment centres.
3. The possible advantages and disadvantages of various suggested methods of self-disinfection, (*a*) before, (*b*) after sexual intercourse.
4. Whether methods of self-disinfection involve any serious disadvantages of a moral kind—that is to say, whether they are calculated to weaken moral control, and thereby to lead to an increase in promiscuous sexual intercourse; and if so, to what extent these disadvantages should render the use and advocacy of self-disinfection undesirable when considered from the point of view of ultimate national welfare.

The Ministry of Health has undertaken to assist the inquiry by all the evidence and information at its disposal.

The members of the Committee are:

The Bishop of Birmingham, C.B.E., D.D. (*President*).
Sir W. Arbuthnot Lane, Bt., M.S., F.R.C.S.
Sir Alfred Pearce Gould, K.C.V.O., F.R.C.S.
Sir F. W. Mott, K.B.E., M.D., F.R.S.
Sir H. D. Rolleston, K.C.B., M.D.
Sir G. Sims Woodhead, K.B.E., M.D.
R. A. Bolam, O.B.E., M.D.
Charles J. Bond, C.M.G., F.R.C.S.
Charles Gibbs, F.R.C.S.
T. Eustace Hill, O.B.E., M.B.
Eric Pritchard, M.D.
Amand Routh, M.D., F.R.C.P.
Agnes Dunnett, M.B.
Mary Scharlieb, C.B.E., M.D., M.S.
Professor William Wright, D.Sc., F.R.C.S.
Rev. Principal A. E. Garvie, D.D.
Right Rev. Mgr. Provost W. F. Brown, D.D.
Rev. F. B. Meyer, D.D.
Rev. Rabbi Professor Hermann Gollancz, D.Litt.

The Secretary is the Rev. James Marchant, C.B.E., LL.D., Rhondda House, 60, Gower Street, W.C.1, to whom all communications regarding the Commission should be sent.

A THIRD surgical clinic (under Professor Borchart) and a fourth medical clinic (under Professor Kiemperer) have been added to the University of Berlin.

TROPICAL MEDICINE IN LONDON.

THE new building of the London School of Tropical Medicine and the Hospital for Tropical Diseases, both of which institutions are attached to the Seamen's Hospital Society, was formally opened by H.R.H. the Duke of York on Armistice Day. The building, in Endsleigh Gardens, Euston Road, was first erected for the purpose of a hotel, but so dextrous has been the work of the adapters and furnishers that the casual visitor would be unaware that the original design was not for a hospital and medical school. The only structural disadvantage is the number of separate floors—nine, including the basement—but this is overcome by excellent lift installations. The school has the lower part of the building and the hospital the upper. On the ground floor are the general offices and board room and a general laboratory; on the first floor the museum and the departments of tropical pathology and entomology, and on the floor above those of helminthology and protozoology. On the third floor a tropical diseases bureau is established, under the direction of Dr. A. Bagshawe. The hospital is entered on the fourth floor, where are the matron's office, the patients' waiting-room, and the officers' quarters; on the fifth floor the staff have their quarters; the sixth floor is devoted to private wards, and the seventh and eighth to general wards, together with operating theatre and dispensary. The hospital contains 60 beds, many of which are already in occupation.

The Duke of York was received by Lord Milner, Secretary of State for the Colonies, the Marquess of Milford Haven, President of the Seamen's Hospital Society, Mr. Austen Chamberlain, M.P., one of the vice-presidents, Sir Patrick Manson, founder of the school, and Sir Havelock Charles, the dean. The members of the committee of management, the physicians and surgeons of the hospital, and the teachers in the school were introduced.

Lord MILNER said that the school and hospital represented one of the greatest achievements of private munificence that he could remember. The school had its origin during Mr. Joseph Chamberlain's distinguished tenure of the Colonial Office. Mr. Chamberlain was instrumental in starting not only this institution, but the similar school at Liverpool which was its rival, and which had also done a great work for the sanitation of the tropical outposts. The hospital and school in London worked together, which was the ideal arrangement, as everybody would recognize. The study of tropical medicine was carried on in direct touch with the treatment of tropical diseases. As time went on, distinguished men of science became attached to the school, and, with the enlargement of its opportunities and the increasing insistence of the demands upon it, a much larger sum than Mr. Chamberlain had originally collected was required. About ten years after the school had been started, Mr. Austen Chamberlain, following in his father's footsteps, and with the cordial support of Mr. (now Lord) Harcourt, then Colonial Secretary, initiated a movement whereby upwards of £70,000 was raised for the school. This placed it in a strong position, though not strong enough for its growing work. After the war was over it became desirable, and indeed almost necessary, to remove the school from its original site near the London docks to its present position, where, through the generosity of the British Red Cross Society and the Order of St. John, a new hospital for tropical diseases was established. This new site, in the educational centre of London, was, of course, a great gain to the school, but the transference, the building of a new laboratory, and the provision of funds for additional research entailed a further appeal to the public, not undertaken without trepidation in view of the demands on private charity at such a time. Thanks to the energetic work of the committee, however, upwards of £100,000 had been already collected towards the £150,000 which was made the objective. (Applause.) He mentioned in this connexion the great help which had been given by Sir Marcus Samuel, who not only came forward with a splendid subscription of his own, but was tireless in approaching others. At the same time, money was not everything; it had been the great good fortune of the school to attract good teachers, and the name and reputation of Sir Patrick Manson would always be connected with its progress. (Applause.) No one who knew anything about our tropical possessions failed to realize that the condition of their development was the improvement of the health of the population, whether European or native. It was owing to the immense progress in this respect already made that some parts of the Empire which had

seemed to be the most backward were now the most prosperous; but greater things still remained to be accomplished.

The DUKE OF YORK then declared the building open. He said that he could not too strongly commend the work that had been done by those who had helped, through medicine, to build up the great tropical dependencies of the Empire. We stood under a great debt, not only to the scientific men who had devoted their lives to this service, but to those who had assisted in the raising of the necessary funds, to the British Red Cross Society and the Order of St. John of Jerusalem, and also to successive Secretaries of State for the Colonies. He wished every success to the students of the school in their vital and interesting studies; many of the students, he understood, were officers appointed to posts in the medical departments of the Colonies or of India, and he did not need to emphasize the importance of their imperial task. It was the first duty of a civilized community to provide the conditions of healthy life, to sweep away plague spots, to take measures against infection, and, possibly most important of all, to instruct the public in the habits of life which made for health. The School of Tropical Medicine held a watching brief for the health of the outposts of our wide Empire, and it was here that schemes might be initiated such as had already made what used to be known as the "white man's grave" a land where to-day the white man could work without any undue toll of death and suffering. He hoped that research would here be stimulated and advanced.

After the inspection of the laboratories and museum the Duke proceeded to the hospital floors, where he was received by Sir Perceval Nairne, chairman of the committee of management, Sir Edward Hope, representing the Mesopotamia Comforts Fund, and the medical staff and matron.

THE SOUTH AFRICAN MEDICAL CONGRESS AT DURBAN.

THE sixteenth South African Medical Congress was opened at Durban, on October 4th, and was attended by 250 delegates representing all the South African Branches of the British Medical Association. Dr. J. A. Macdonald, late chairman of the Council of the Association, was enabled, by the coincidence of his visit to South Africa with the holding of the Congress, to attend its sessions and take part in its work.

The President of the Congress, Dr. S. G. Campbell, was introduced by Dr. Campbell Watt, vice-president of the South African Committee, who said that Dr. Campbell's name was well known in Durban as one possessing in addition to professional skill a catholic outlook, high ideals, and intrepidity in political aims. The Congress was opened by his Honour the Administrator, Mr. G. T. Plowman, C.M.G., who paid a tribute to the services rendered by Sir Thomas Watt in securing the passage of the Public Health Act for South Africa; it was a matter for congratulation, he said, that the provincial authorities had now been given a public share in the administration of public health, particularly in regard to the treatment of tuberculosis and of venereal disease. Public assistance for endowment and maintenance of hospitals had been abundantly forthcoming in Natal; similar assistance was called for as a supplement to Government aid in the matter of maternity and of child welfare.

President's Address.

The PRESIDENT thanked the Administrator on behalf of the Congress, and expressed also the pleasure felt in welcoming Dr. Macdonald, who had come as a representative of the British Medical Association, under whose auspices the Congress was being held. He hoped that Dr. Macdonald's visit would enable him to do what lay closest his heart—to strengthen the ties which bound the Branches to the mother tree, which was so strongly rooted in the British Isles. Since the last meeting of the Congress the Great War had devastated the world. It might be asked, Would the communities of the earth face the future better equipped mentally and physically to work towards the high destiny to which, by its yet unfulfilled ideals, mankind was urged? A great responsibility in helping to shape the future must fall upon the medical profession, whose success would depend on the appreciation of its object by the citizens of the State, and on their close co-operation. The medical man, by training and circumstances, should be best able to advise and to control the conditions on which fundamentally rested the social welfare of the people. But a general awakening of the public conscience was essential before one could approach within a measurable distance of the ideal. The business man would ask what percentage return would accrue from outlay in connexion with public health; but the lives and the comfort of the community were not computable on the basis of pounds, shillings, and pence. No community should consider itself sane which had not under it skilled, thorough, and systematic supervision, in addition to the matters commonly included under public health—motherhood, physical and mental child welfare, housing, and food. The President concluded by a plea for a more active individual participation in the consideration of problems than was shown by the members of the profession as a whole. It would be good if medical assistance were more often available for the scientific solution of many problems in connexion, for example, with the limitation of working hours. The present year marked the advance of South Africa to the position of being able to offer its young people a full course medical curriculum. Thus their own people would be able to enter the portals of a profession which was a hard master and bad servant—a hard master in that to live up to its ideals required a life of self-sacrifice and anxieties, accompanied, however, by the corresponding spiritual compensations; while it was a bad servant if undertaken for the purpose of making a living. Other occupations offered greater opportunities for the acquisition of wealth, and young men and women who contemplated entering the medical profession should first make certain that an impelling force drove them in that direction.

Speech by Dr. Macdonald.

Dr. J. A. MACDONALD said that he appreciated, and would always remember, the manner in which the Congress had expressed its welcome to him. He came as an ambassador from the British Medical Association to one of its greatest Branches, and he brought a message wishing the members of the Congress success and prosperity not only in their profession but as members of the Association. It was his endeavour to see the British Medical Association coterminous with all the medical men throughout the Empire, and if he had done a little towards that aim in South Africa he would return home well satisfied. In 1914 he had had the honour of making a similar visit to Australia, New Zealand, and Hong Kong, and there he had found the British Medical Association stronger than at home. In Australia about 98 per cent. of the doctors were members of the Association; might he hope that they would soon be as strong in South Africa?

Sections.

In the Public Health Section, of which Dr. A. Jasper Anderson, M.O.H. for Capetown, was president, a paper on "Some problems affecting rural areas and the smaller towns of South Africa" was read by Dr. G. L. Haydon, M.O.H. for the Union, Pretoria. Dr. Haydon said that in large towns the inclusion of the various hospital units in one central institution, provided with separate blocks for fever cases, mental cases, etc., would result in economy of means and personnel, and would secure greater elasticity and efficiency. After a summary of the campaign against typhus and malaria conducted during the last four years, Dr. Haydon pointed out that at last the onus of responsibility for keeping vermin-free was laid on every individual while at home, and on employers where native employees were in barracks. It was anticipated that the preventive and educative methods initiated in the Transvaal would lessen the incidence of malaria. Allusion was made to the important part played by flies in the spread of intestinal diseases, especially in the small towns, and Dr. Haydon expressed the view that it was quite possible for any rural authority by adequate sanitary measures to overcome this source of infection.

Besides the various sectional discussions the delegates attended a reception at the Arthur Smith Hall, and public lectures were given in the town hall by Dr. Erasmus Ellis and Dr. M. G. Pearson.

Banquet.

A very successful congressional banquet was held at the Royal Hotel on the evening of October 8th. The President occupied the chair, and was supported by Dr. Macdonald and the Mayor of Durban.

British Medical Journal.

SATURDAY, NOVEMBER 20TH, 1920.

THE IMPORTANCE OF ORTHOPAEDICS.

THE paragraphs in the annual report of the Chief Medical Officer of the Board of Education, of which we gave some account in our last issue (p. 761), and the address of the President of the British Orthopaedic Association, which is published in this number, concur in calling attention once more to the need of the children of this country who are crippled or in danger of becoming crippled if not properly treated. The public conscience has long been stirring in this matter, and we published last year (October 11th, 1919) a paper by Sir Robert Jones and Mr. Girdlestone in which were laid down the lines on which a national scheme for the treatment of cripples might be formed. Before a complete scheme for the whole country can be prepared it will be necessary in the first place to make an accurate census of the cripples. A rough estimate of their numbers may be formed from the returns made by school medical officers and printed in tabular form in Sir George Newman's report. But before an accurate census can be made it will be necessary to set down clearly what are the conditions which constitute crippledom. It is evident that the figures in the table represent very diverse ideas on the part of the school medical officers concerned. How else is it possible to explain the respective figures of incidence per 1,000 in the cases, for example, of Ealing (10.7), Acton (4.7), and East Ham (4.7)? Surely comparatively well-to-do Ealing has not twice as many cripples as its immediate neighbour Acton, or the poor working-class district of East Ham!

Despite the want of a census we know that there is a very large number of cripples needing treatment, that many are not being treated at all, and that many who are undergoing treatment are, for want of proper facilities, receiving very inadequate attention both as regards quality and quantity. The experience gained by the public authorities at such excellently equipped centres as Queen Mary's Hospital at Carshalton shows the long periods for which it may be necessary to continue treatment in order to obtain definite cure or permanent relief, and the meticulous surgical care which is necessary during that time. When we reckon up the number of properly trained skilful orthopaedic surgeons that will be required to staff the necessary institutions we are at once confronted with the fact that nothing like a sufficient number exists. The needs of war have produced many most efficient surgeons skilled in the surgery of the extremities, but many times their number will be required. Sir Robert Jones in his address sets himself to sketching a scheme of training to meet the want. As he points out, it is no narrow speciality with which the modern orthopaedic surgeon will have to deal, but one which includes some of the most interesting subjects of our art, and which offers to the true χειρουργός, the handicraftsman, the most fascinating problems in medicine and mechanics combined. For although the highest operative skill is required, in no branch of surgery is it more true that the healing of the operation wound only marks the beginning of curative treatment. No other branch of surgery can afford so much satisfaction to the surgeon in the contemplation of worthy achievement and of young lives brightened and minds and bodies made permanently more efficient by good surgical technique and mechano-therapy.

An efficient orthopaedic department is not to be created by appointing a surgeon, however brilliant, nor by allocating to it certain premises and apparatus. To carry out the post-operative treatment a number of trained assistants and masseurs are needed, but the students under instruction should be entrusted with much of this work under proper supervision. An undergraduate who sought to obtain a diploma or certificate of proficiency in orthopaedic surgery should be required to produce evidence that he has learnt not only the technique of the plaster room, but also that he can handle tools and make at least the simpler kinds of appliances. Every one does not possess an aptitude for practical mechanics; those who do are the most likely to prove efficient orthopaedic surgeons. It will take time to train enough undergraduates for a complete national scheme, but meanwhile post-graduate courses might be established, both for a pass diploma and for the higher qualification, such as that which the University of Liverpool has in contemplation.

Above all, it cannot be too strongly urged that the treatment of cripples, and especially of crippled children, should be carried out in the country, and as far as possible in the open air. Enough experience has been gained to show that children do best in wards or sheds exposed as to the whole of one side to the open air, and that in this country it is never necessary to move them to more sheltered positions, no matter what the weather may be. Increased efficiency is here happily combined with much decreased cost of building, as such shelters can be erected at a cost of only a few pounds a bed. At present the fact that no indoor refuge is needed is not appreciated by the Metropolitan Asylums Board, which insists that for each outdoor case an indoor bed shall be available in case of need. It is much to be regretted that, disregarding the advice of experienced medical officers, the Board has refused to abrogate this rule in the case of crippled children.

At the present time the continued existence of voluntary hospitals is in the balance, and the public as well as the profession are ready to consider schemes for the reorganization of medical education. Sir Robert Jones's address is therefore peculiarly timely, and will, we hope, fruitfully stimulate opinion on this subject.

CAPILLARY POISONS, SHOCK, AND ANAPHYLAXIS.

IN the first of his three Herter lectures, delivered in November, 1919, at the Johns Hopkins University, Dr. H. H. Dale[1] gave a clear review of the work on shock, which from various papers and reports published in the *Journal of Physiology* and by the Medical Research Council, especially in 1919, has already come within our readers' purview, though not in so compact a form. Starting from a pharmacological investigation of ergot in 1904, a series of researches in association with Drs. Barger, Laidlow, and Richards was devoted to histamine, an amine derived from ergot by decarboxylation of amino-acids. It was first shown that relatively small doses of histamine could, like certain products of the partial cleavage of proteins, cause the phenomena of anaphylactic shock. Further experiments with histamine proved that its action on the circulation involved a dual mechanism — namely, constriction of the

[1] H. H. Dale: *Bull. Johns Hopkins Hosp.*, Baltimore, 1920, xxxi, 257-265.

arterioles and relaxation of the capillaries. The sensitiveness of the capillaries to this dilator influence is extraordinary, one-millionth of a milligram of histamine having been observed to exert this effect. These observations lead to an important modification of current physiological opinion; although the conception of an independent contractility of the blood capillaries has been entertained since 1865, it has generally been considered that the arterioles are the important factor in maintaining the blood pressure, and that when the blood enters the capillaries it has reached an area where the peripheral resistance is relatively trivial. Dr. Dale takes the view that the capillaries in the body as a whole are normally in a state of tonus and thus contribute an effective part of the peripheral resistance. In ordinary conditions a very small proportion only of the available capillary paths in the tissues is at any one time transmitting blood, the remainder being closed by intrinsic tonus; further, the site of this closure is always changing, some paths opening while others close, so that the total passage is kept fairly constant. There are therefore (1) coarse adjustments of blood supply to whole organs or areas effected by variations in arterial tone under the influence of the nerves or of epinephrin, and (2) a fine adjustment of the supply to the varying needs of small areas or even of individual cells caused by the changing tone of the capillaries. Although it is tempting to explain this mechanism by the assumption that there is increased protein cleavage with the formation of histamine-like bodies, there is no proof that such substances are produced by the tissues during functional activity.

Larger doses of histamine—1 to 2 mg. per kilogram of body weight—produce pathological results, those of secondary shock; these are arterial constriction, general and persistent dilatation of the capillaries with stagnation of blood there, so that the great vessels and heart become relatively empty. This oligaemia is mainly due to capillary stasis, but there is concentration of the blood, as shown by a rise of 50 per cent. in the number of red blood corpuscles and the haemoglobin content, due to escape of more than half the plasma through the damaged capillary endothelium into the tissues. After an initial period, which may show a rise, the blood pressure slowly falls. These data are applied with wise caution to the explanation of secondary wound shock in which probably the essential factor is absorption from injured autolysing tissues, and especially muscles, of substances producing the same depressant effect on capillary tone and the same morbid permeability of their walls as that known to be caused by histamine. For fifty years the similarity between states of traumatic shock on the one hand, and collapse from rapidly generalized infection on the other hand, has been recognized, and it is clear that circulatory changes of a similar character are produced by poisons which, whether traumatic or bacterial in origin, have an action analogous to that of histamine.

In the second lecture[1] anaphylaxis is defined as a condition in which a normally innocuous, indeed an inert, substance has the effect of an acute poison of the type of histamine; and it is shown that it apparently depends on the formation or introduction of a specific body of the precipitin type, but that when the abnormal sensitiveness is most characteristically present, no precipitating quality can be recognized in the blood serum. The difficult problem of the nature of anaphylaxis is philosophically discussed, and the difference of the modern conception from Richet's original view, that it was the converse or antithesis of immunity, is pointed out. In the guinea-pig anaphylaxis depends on the interaction of antigen and antibody in the cells, but an answer is still required to the initial problem why the occurrence of this intracellular reaction should produce effects on plain muscle and capillary endothelium so closely resembling those caused by a group of protein derivatives of which histamine is a type. While cautiously warning his readers that the scene now changes from the region of experimental research to the realm of speculation, Dr. Dale suggests that in the development of anaphylactoid shock the meeting of precipitin with antigen in the cells sets up a change in the state of dispersion of the protoplasmic colloids; such a change might initiate a fermentative process leading to the formation of a substance having the histamine type of action or even of histamine itself. In answer to the further question, how histamine produces its effects, it may, in our ignorance, again be supposed that a change in the state of dispersion of protoplasmic colloids is thus induced.

In the third lecture the discussion of anaphylaxis is continued and it is explained as a specialized phase in the development of the immunity necessary to a species to prevent the permanent incorporation into its cells of the protein of another species; and it is pointed out that the dangers of the anaphylactoid state are largely induced by the purely artificial conditions of hypodermic injection, whereby a foreign protein is introduced into the circulation with a rapidity not achieved by any natural method of absorption. Whereas the same fats and carbohydrates are found in many different species, the distinction of species depends on a difference in their proteins. These proteins may, in some instances, be distinguished by their chemical or physical properties; but, on the other hand, corresponding proteins from species not too widely separated may be identical, except in their immunity reactions. Possibly the difference may depend on the order of arrangement of the amino-acids into the intricate pattern of the molecule; and Dr. Dale's investigations on the anaphylactic reactions of certain proteins, in conjunction with Dr. H. D. Dakin's examination of their molecules as to the structural arrangement of the amino-acids, justify the hope that it will eventually be possible to state antigenic specificity in terms of structural chemistry. This difficult problem of "chemical structure and physiological action" is further discussed, with illustrations from the action of certain alkaloids and organic bases, especially epinephrin.

[1] *Bull. Johns Hopkins Hosp.*, 1920, xxxi, 310-319 and 373-380.

THE SERO-THERAPY OF TUBERCULOSIS.

In two recent communications to the French Academy of Medicine[1] a new intensive method of preparing therapeutic serum was described. In the first communication J. W. Howard of Buenos Aires describes the procedure whereby he prepared serum against the typhoid bacillus, and in a later paper the same author, in conjunction with S. Rano,[2] gives details of the application of the same process for a similar purpose in the case of the tubercle bacillus. Briefly the method consists in administering a living culture in gradually increasing doses intravenously to a horse, and in injecting from time to time the fresh serum of another species of animal in order to promote bacteriolysis. So far there is little new in the method; its novel feature is the transference of the serum of the first immunized animal to a second, which is then prepared against the living micro-organism in the same way. The

[1] Howard, J. W.: *Bulletin de l'Académie de Médecine*, vol. 84, No. 32, October 19th, 1920, p. 147.
[2] Howard, J. W., and Rano S.: Ibid., October 26th, 1920, p. 163.

serum of the second horse is next transferred to a third, the immunization continued, and so on. It is stated that by this procedure Howard succeeded in obtaining a therapeutic serum that possesses strongly bacteriolytic, agglutinating and precipitating properties both *in vivo* and *in vitro*, and that it proved to have well-marked curative properties when administered to typhoid patients. Chief interest, however, attaches to the last communication, where Howard and Rano describe the therapeutic results obtained with a serum prepared on these lines against the tubercle bacillus. After sounding a note of caution, so necessary in speaking of therapeutic results obtained in tuberculosis, they state that experience of the application of this serum to over 200 cases suffering from different forms of tubercle enables them to speak strongly of its efficacy. As an example of its therapeutic potency, they mention that three cases of tuberculous meningitis recovered when treated intrathecally with the serum. In spite of this encouraging result they consider that further progress will require prolonged experimentation. The clinical observations were carried out at the Velez Sarsfield Hospital at Buenos Aires. Further particulars of this promising development of sero-therapy will be awaited with interest.

HEALTH OF THE NAVY.

THE statistical report of the health of the Royal Navy for the year 1914,[1] necessarily delayed by the war, is now issued under date of January 1st, 1920. The chief point of general interest is naturally the influence exerted by the war. The total force, corrected for time, in 1914 was 158,300, and the total number of cases of disease and injury entered on the sick list was 93,041, which gives a ratio of 587.75 per 1,000, a decrease of 52.4 as compared with the ratio for the preceding five years. The average number of sick daily was 3,215, giving a ratio of 20.3 per 1,000, a decrease of 5.7 in comparison with the previous five years; and the average loss of service for each person was 7.4 days, a decrease of 2.08, as compared with the average for the preceding five years. The number of final invalidings also showed a fall. These satisfactory figures are probably connected with the stimulating effect of war and the resulting reluctance of men to report sick. On the other hand, the total number of deaths was 5,995, giving a ratio of 37.87 per 1,000, an increase of 34.66 in comparison with the average ratio for the previous five years. Of this number, 407, or 2.57 per 1,000, were from disease, and 5,588, or 35.3 per 1,000, from injury, including casualties in action. The table of the killed and wounded in action in the service afloat shows that 4,362 were killed or drowned, the large majority being due to drowning when ships were sunk by mines or by the enemy, but the number due to this cause alone without any additional injury cannot be stated. There were 39 deaths from wounds, and in addition 167 cases classed as severely wounded and 368 as not severely wounded. There is an interesting table with 97 items showing the ships, places, and dates of casualties in action, beginning with H.M.S. *Amphion*, sunk by a mine in the North Sea on August 6th with 185 casualties (147 killed), and ending on December 31st, when a boat action against the *Königsberg* in Rufigi River cost H.M.S. *Dartmouth* one casualty from a bullet. The loss of H.M.S. *Good Hope* and *Monmouth* on November 1st, in the action off Coronel, Chile, was responsible for the loss of 1,655 lives, but Admiral Sturdee's victory at the Falkland Islands was attended by only 27 British casualties (3 being fatal). Of the general diseases, Mediterranean fever, once an important disease, was recorded in 8 instances, or 0.05 per 1,000, as compared with 0.06, the average for the previous five years. There were 18 cases of cerebro-spinal fever, 13 from home dépôts and 5 from the Grand Fleet. Tuberculosis was recorded in 336 cases, 289 being pulmonary, with 269 final invalidings and 42 deaths. The total number of venereal disease cases was 11,575, and showed a substantial decrease of 36.8 in the case ratio as compared with the average for the preceding five years; the highest case ratio per 1,000—namely, 138.5—was given by the China station, and the lowest (47.5) by the Cape of Good Hope. The health reports of the various stations are summarized separately. In the Grand Fleet, which consisted of 239 vessels and had a mean force, corrected for time, of 88,240, the returns in general were very satisfactory; the incidence of infectious diseases was very low, and there were well-marked reductions in the case ratios of influenza, venereal disease, parasitic and skin affections, and local injuries. In view of the severe war strain it is remarkable that the case ratio of nervous diseases has gone up no more than 1.8, and that the cases of neurasthenia amount to only 256, with 85 invalidings.

[1] *Statistical Report of the Health of the Navy for the Year 1914.* Published by His Majesty's Stationery Office, pp. 169. 1920. Price 1s. 6d.

CHAIR OF TUBERCULOSIS IN WALES.

As was mentioned last week, Major David Davies, M.P., founder of the Welsh National Memorial Association for the Prevention of Tuberculosis, has, acting with his two sisters, given the sum of £12,500 to found a chair of tuberculosis in the Welsh National Medical School, University College, Cardiff. The desire is to link up the medical work of the Memorial Association with the Welsh National Medical School, and it was therefore arranged that the professor appointed should also be medical director of the Memorial Association. Colonel S. Lyle Cummins, C.B., C.M.G., Professor of Pathology at the Royal Army Medical College, was on November 12th elected to the dual office. While serving in Egypt in 1907 he was concerned in plans for the prevention of tuberculosis among the Sudanese battalions, which suffered severely from the disease. Afterwards he was assistant professor of pathology at the Royal Army Medical College, and was engaged in superintending the manufacture of typhoid vaccine. At the outbreak of war he went to France as medical officer in charge of General Head Quarters, and shortly afterwards was appointed D.A.D.M.S. In March, 1915, he was placed in charge of antigas defence, and during the next two years, through the combined labours of many workers, British troops were provided with appliances and a system for gas protection which was approved and imitated by other armies. Colonel Cummins then went to Italy as A.D.M.S., and in 1918 was appointed adviser in pathology at British Head Quarters in France. In that capacity he came into close association with the American Red Cross Research Committee; later he was appointed a member of the General Council of the League of Red Cross Societies. Last year he resumed his duties as Professor of Pathology, R.A.M. College, an office to which he had been appointed in 1914. We believe that this is the second chair of tuberculosis instituted in Great Britain, the other being that held by Sir Robert Philip in the University of Edinburgh.

SURGICAL TREATMENT OF ANGINA PECTORIS.

JONNESCO,[1] who first introduced resection of the cervical sympathetic system in 1896, was able, in 1906, to report to the German Congress of Surgery 159 operations, all but two bilateral, without a death and without secondary trophic troubles. They were performed for glaucoma, for exophthalmic goitre, and for epilepsy; a few have been done for neuralgia and migraine. Jonnesco claims complete success in exophthalmic goitre, and a high proportion of relief in glaucoma, but admits very doubtful results in epilepsy. It is probably fair to say that surgeons generally have not looked favourably upon the operation, which,

[1] *Bulletin de l'Académie de Médecine*, 3e série, Tome lxxxiv, No. 30, p. 93 et seq.

though described by the originator as "delicate but in no way difficult," has serious technical drawbacks for less skilled hands. It is significant, too, that though François Frank suggested as far back as 1898 the possibility of sympathectomy as a treatment for angina pectoris, Jonnesco could not find any one of his medical colleagues to send him a case until 1916. In April of that year a man of 38, employed in a church choir and as a law court official, syphilitic and alcoholic, was admitted to his clinic after having had four severe attacks of angina. A further attack was observed whilst in hospital; the symptoms were precordial pain, agonizing constriction of the chest, and severe neuralgic pain radiating down the left upper limb. The pulse was small and infrequent (48 to 52); the heart was enlarged and the aorta also. At the operation the middle cervical ganglion, the sympathetic trunk, the plexuses about the inferior thyroid and vertebral arteries, the inferior cervical and first thoracic ganglia of the left side, were removed. The immediate results were those usually observed, but the striking feature is that the patient had no attack of angina during the subsequent four years. Although the Wassermann reaction was positive, and the patient remained two months in hospital, Jonnesco in his report does not mention any treatment by salvarsan. Contrary to his usual custom, Jonnesco was forced—in this case by the patient's refusal of further operation—to confine himself to a unilateral excision, and confesses to some surprise at the completeness and permanence of the relief. Granted that the phenomena of angina are due, as he alleges, to irritation of the terminal filaments of the nerves of the sympathetic plexus in the walls of the chronically inflamed aorta, it would seem necessary for cure, as he had himself supposed, that every path of transmission to the cord and bulb, the dorsal communication of the first thoracic ganglion, the vertebral plexus and the sympathetic trunk should all be cut off; yet in this instance, where, it is true, the precordial pain and brachial neuralgia were definitely left-sided, cure resulted from simple ablation of the paths on that side. Angina is so terrible a disorder, one in which the sufferer may naturally be supposed ready to accept any treatment, however drastic, that promises relief, that Jonnesco's initiative will be watched with attention, but surgeons in general have shown no disposition hitherto to adopt the procedure for any less urgent reason.

CONGRESS OF UNIVERSITIES.

The first Congress of Universities of the Empire was held in London in 1912, when all the universities, to the number of fifty-three, were represented, in most cases by their executive heads together with several members of their professoriate. The Universities Bureau was an outcome of this congress; to it was entrusted the summoning of future congresses at intervals of five years. In 1917 this intention was frustrated by the war, and transport difficulties rendered it undesirable to attempt to carry it into effect during the present year. It has now been arranged that the second congress shall be held next summer. Dr. Alex Hill, who took over the organization of the first congress after the death of Dr. R. D. Roberts, who had laid its foundations, and has from the beginning acted as secretary to the Bureau, is engaged in its promotion. The number of universities in the British Empire has now increased to fifty-eight, and all, it is anticipated, will make a point of sending delegates. With great generosity the University of Oxford has invited all members of the congress to be its guests from July 5th to July 8th. The Chancellor of the University, Lord Curzon, will preside over the morning session on July 5th, and Mr. A. J. Balfour, Chancellor of the University of Cambridge, will preside in the afternoon. On the preceding day the congress will assemble in London for certain ceremonial functions and entertainments, of which the programme will be announced at a later date.

ANTIVIVISECTION IN AMERICA.

In California a bill for the prohibition of all experiments on animals is being submitted this month to the popular vote. It is opposed by the authorities of the California University and of Stanford University, and by all who fully understand the benefits to farming and stock breeding which have come from experiments on animals. Thus there is a fair hope that this iniquitous and cruel measure will be rejected. Still, it is widely supported. A correspondent in California, a member of the Research Defence Society, writes that "the public has been quite bamboozled with lies. Back of the anti-movement here stands the great Christian Scientist Church—rich, powerful, fanatical. You have no idea of the power they can exert in this State whenever they are impelled; and, naturally, their influence is always thrown against ideas involving the recognition of the bacteriological origin of disease. Then we have a large class of vegetarians, osteopaths, chiropractors, drugless healers, theosophists, spiritualists, prohibitionists, standing back of the Christian Scientists. I doubt if in any community in the civilized world would an antivivisection bill have a stronger following than in California; and I say this admitting that from a certain standpoint the general intelligence and cultivation is exceptionally high. It is, however, merely a high degree of fuddled mediocrity. No low spots, no high spots." It would be hard to put things better than that. We over here are more fortunate. Our profession and our newspapers are not held back by any fear of "Christian Science" from saying what they think about real science. We are happily free from osteopathy and chiro-practice; indeed, we hardly know the meaning of these words. Still, we must not be too proud of ourselves. We are the servants of the public, and we must not neglect the plain duty laid upon us to educate our masters.

AEROPHAGY.

Dr. G. Leven's monograph on Aerophagy,[1] which was ready for press in 1914, contains much new information based on *x* ray observations begun in 1902. Air swallowing, of which the patient is often unconscious, is a frequent, and often undetected, factor in dyspepsia; in fact, flatulent dyspepsia, so commonly regarded as due to fermentation, is mainly indigestion complicated by aerophagy, and for its cure demands treatment for air swallowing. The reason why aerophagy, which is so protean in its clinical manifestations, is so commonly overlooked and its nature and mechanism misunderstood, is that *x*-ray examinations are necessary for its correct interpretation, and accordingly the author's extensive employment of this diagnostic method makes this comparatively small volume of great value. Though the first to be described, nervous aerophagy is the rarest of all the forms, a definite cause being often overlooked in cases so reported. The responsible factor may be extra-gastric, such as adenoids and nasopharyngeal catarrh, or gastric—for example, gastroptosis may irritate the solar plexus and so set up deglutition movements. Increased salivation, of course, plays a very important part in air swallowing, and its frequency is associated with one of the minor signs of the condition, namely, the bright red and moist tongue. Aerophagy may be silent when the cardiac orifice of the stomach is relaxed, or partial and noisy when the cardia is spasmodically closed; the noisy movements of air, which the patient erroneously regards as eructations, might well be called enructations, for *x*-ray examination proves that air is being swallowed when the false eructations are taking place. The stomach may be large, and the author points out that the splash usually regarded as evidence of gastrectasis is much more characteristic of aerophagy. But the more important gastric condition is a small spasmodically contracted stomach which can be recognized

[1] *L'Aérophagie.* Par le Dr. G. Leven. Paris: Libraire Octave Doin. 1920. (Pp. 219; 28 figures. 6 francs.)

only by skiagraphy. Air swallowers may have an hour-glass stomach due, not to any organic change, but to pressure exerted by the dilated splenic flexure of the colon, and such stomachs may be much contracted and contain air at high pressure. The intestinal manifestations are fully as important as the more familiar gastric symptoms; spasm at the splenic and hepatic flexures of the colon may simulate renal, biliary, or appendicular colic. The circulatory symptoms include dyspnoea, anginoid seizures, acute cardiac dilatation, high blood pressure, palpitation, and syncope. The treatment varies with the etiology; for the tic of air swallowing various mechanical methods, such as a nasal clip, are suitable; for diaphragmatic insufficiency breathing exercises should be prescribed; and for the causal dyspepsia, diet with bismuth carbonate and sodium bromide (30 grains daily), to relieve spasm due to irritation of the solar plexus, should be employed. Antiseptics, such as naphthaline, and charcoal are useless. For acute and dangerous aerophagy, such as post-operative dilatation of the stomach, the gastric catheter should be passed and very hot baths given. Finally, this useful book provides a chapter on the air swallowing of infants.

LEPROSY IN NORWAY.

AT a meeting of the Norwegian Medical Association in August, 1920, Lie [1] referred to the familiar prophecy that leprosy would be completely stamped out in Norway by 1920. In 1856 there were about 3,000 cases. After 1870 there was a rapid fall, so that by 1880 there were only 1,804 lepers left. By 1900 this number had dwindled to 577, and by the end of 1919 to 180. But after the autumn of 1918—that is, within a period of less than two years—15 new cases were notified. Only one of these was of recent origin; the rest were advanced cases which had lasted for years. Giving details of several of these cases, Lie pointed out how the patients had led more or less vagrant lives, circulating among their fellow-beings with the unobtrusive facility of coin of the realm. Most of them had more than a shrewd suspicion of the nature of their disease, but though they had gone from doctor to doctor, and one had even consulted a specialist in diseases of the nose and throat, the leprous character of the disease had been overlooked. Syphilis was the disease usually diagnosed in these cases, and this mistake was the more pardonable as Wassermann's reaction is usually positive in the nodular form of leprosy. Failure to establish the diagnosis was in some cases due to ignorance of the fact that rhinitis, usually associated with epistaxis, may be the first and only clinically demonstrable sign of leprosy. Another factor conducive to diagnostic errors is the length of the period between infection and outbreak of the disease. Thus in one case—that of a woman aged 74—the disease did not break out till twenty-seven years after her leprous sister had left home. In another case there was a period of fifty-five years between the patient's last known exposure to infection and the outbreak of his disease; but infection may yet have occurred in the interval, for official investigations do not always reveal every "contact." The long latent period of the disease and its difficulty of recognition in certain cases have combined, Lie thinks, to stultify the prophecy that the disease would be stamped out in 1920. The remedy suggested is to familiarize the younger members of the medical profession with the clinical manifestations of early leprosy.

THE STEVENS CASE.

MANY members of the medical profession have recently received from Mr. Charles H. Stevens a copy of a pamphlet purporting to set forth the medical evidence in the case of Stevens *v.* the British Medical Association. The pamphlet only contains the evidence of certain of Mr. Stevens's witnesses given at the first trial, which commenced on October 23rd, 1912. On comparing the pamphlet with the shorthand writer's transcript of the actual evidence given in the case, it would appear that certain portions of the evidence which might be considered in any way to question the merits of his so-called cure for consumption have not been inserted in the pamphlet. We have found no mention of the fact that in this first trial the jury disagreed, and that in the second trial, which began on July 15th, 1914, a verdict was returned in favour of the British Medical Association. We find on inquiry that the pamphlet has been in circulation since June, 1916.

[1] *Tidsskrift for Den Norske Laegeforening*, October 15th, 1920.

AT a meeting on November 10th of the Executive Committee to promote a memorial to the late Sir Victor Horsley, it was decided at once to issue, as widely as possible, an appeal for a fund for a research scholarship or lectureship.

Medical Notes in Parliament.

The Ministry of Health Bill.

Probable Abandonment of Financial Clauses.

FOR all Government measures which may involve money charges it is necessary after a second reading of a bill to pass in Committee a financial resolution which thus buttresses the bill. The financial resolution for the Ministry of Health (Miscellaneous Provisions) Bill came before the House of Commons on November 15th. It was not then possible either for the supporters or opponents of the various provisions to discuss them again at that stage, but in view of the hostility shown by a considerable group on the second reading, Dr. Addison made an important statement as to the willingness of the Government to curtail the proposal.

Before Dr. Addison spoke, Mr. Bonar Law announced that any amendments that might be made by the Standing Committee to which the bill had been referred, would be accepted by the Government if these changes did not affect vital points. He referred also to the fact that the Government intended to appoint a Select Committee to see what control Parliament could exercise over expenditure falling on the rates through legislation. These assurances, however, did not satisfy the critics, and thus it was that Dr. Addison, when pressed for further information as to the Government policy in regard to this bill, said that the Government would be willing to give up in Standing Committee all the clauses which could possibly raise the rates except Clause 11, which relates to hospitals. He enumerated fourteen clauses (out of the twenty-six which constitute the bill) that came within the financial definition and would, if it were wished, be dropped. He discriminated between those that could be omitted without trouble, inasmuch as such proposals could come up in different form in another session, and those which could be cut out regretfully in deference to such wish as might be expressed by a majority in Grand Committee. He made quite clear that Clause 10, dealing with homes for incipient mental disorder, and Clause 11, would be pressed forward. But as the bill may, under the intimation given, be relieved of more than half its provisions, and these the most controversial, there is good prospect that it will be returned from Standing Committee to the House of Commons in time for passage through Parliament this session. In justice to Dr. Addison, Mr. Bonar Law said that the bill was drafted and presented to the Cabinet and accepted by them before the summer recess, and therefore it was not the fault of the Minister of Health that it was submitted to the House of Commons with such a weight of matters so inconveniently near the end of the session.

The Standing Committee (or "Grand Committee") to which the bill has been referred included Dr. Farquharson and Dr. Murray; the names of Dr. Raw, Dr. Fremantle, and Dr. Molson have been added for the purpose of considering this measure.

In the second reading debate, on November 9th, Dr. Fremantle, speaking on behalf of the London County Council, reviewed most of the clauses in the measure. His references to Clauses 10 and 11 were necessarily brief, but he took care to give support to Clause 10, subject to safeguards. He indicated the feeling that the provision should be sparingly used so as not to interfere with work already in progress; that it should, in fact, be regarded only as a small contribution to the solution

of the problem of dealing with the cases of mental deficiency and disorder in their early stage. As for the danger of abuse, he thought that perhaps one of the best safeguards would be that the Minister of Health, in appointing inspectors to visit the homes, should appoint them from the county medical officers, or the county medical staff, who were themselves concerned with the local conditions. In regard to this clause and Clause 11, the Finance Committee of the London County Council asked that, if there were to be contributions from the rates, there should be an equivalent grant from the Treasury.

The Patent Medicines Bill.

Although the hope of passing the Patent Medicines Bill through Parliament this session has not been abandoned, there is considerable doubt whether there will be sufficient time for it to be proceeded with. On the summer adjournment it was left for report in the House of Lords, where some small amendments have to be introduced in the measure in accordance with Government pledges. The intention was to introduce the bill in the House of Commons last month; but more urgent proposals have prevented this being done, and the programme of the Commons for the rest of the session is heavy. This bill can hardly escape opposition from powerful interests in the background, and there may be difficulty in getting the necessary opportunity for its discussion in all stages. If this cannot be allocated it may be dropped, and reintroduced next session.

The Tuberculosis Bill.

Dr. Addison, on November 16th, stated that during this session a part only of the Tuberculosis Bill would be proceeded with. The part to be taken would be that which was essential to be carried in consequence of the provisions of the National Insurance Act (which was passed last May) in order to continue the existing provisions from July 1st next.

Royal Army Medical Corps Officers.—Captain Elliot asked, on November 9th, whether several regular Army Medical Service officers with distinguished war records had recently been placed on half pay against their desires; if junior ranks were meantime forbidden to resign their commission on account of the shortage of medical officers; and if one officer who was promoted colonel for service in the field, and received the D.S.O., the C.M.G., the C.B., and the French Croix de Guerre with two palms and a star, had been placed on half pay six years before the age limit for his rank. Sir A. Williamson replied that the procedure for reduction of establishments as laid down in Royal Warrant had been followed. The number of colonels in the Army Medical Service was largely in excess of the establishment, whereas among the junior ranks there had been a shortage owing to the number of temporary officers demobilized and the demand for officers for service overseas. Until recently it was therefore impossible to permit the retirements of such officers, but this was no longer the case.

Medical Record Cards.—Brigadier-General Colvin asked, on November 10th, the cost involved in preparing, printing, and issuing to Insurance Committees the new medical record cards to be kept by insurance practitioners after January 1st, 1921; the estimated expenditure of Insurance Committees for writing the insurance cards and supplying the cards to the practitioners; and the estimated annual expenditure of carrying out the proposed procedure in the transmission of record cards in the cases of persons removing from one district to another. Dr. Addison replied that the estimated initial outlay for England and Wales on the new permanent medical record was, under the first part of the question, £38,000, and under the second £19,000. It was not possible to give a reliable estimate of the yearly cost of transmission of the record cards, but it should fall considerably short of the annual expenditure on the old medical record cards and doctors' register cards, both of which would be replaced by the new permanent record card.

Divisional Medical Officers.—The four divisional medical officers appointed in connexion with the medical insurance service are allocated as follows: Dr. A. Fulton, North-Western Division; Dr. C. H. Milburn, O.B.E., North-Eastern Division; Dr. H. J. Neilson, C.B.E., Southern Division; and Dr. R. E. Crosse, Metropolitan Eastern Division; the net inclusive salary for each is £1,600 a year.

The University of London and the Bloomsbury Site.—Replying to questions by Sir W. Davison, on November 10th, Mr. Fisher said that so far as he was aware no agreement had been entered into by the Government of which Lord Haldane was a member, nor by any person acting on behalf of that Government, for the purchase of the Bloomsbury estate now offered to the University of London. The action of the present Government was in no way determined by anything which took place in 1911 or 1912. Sir W. Davison asked if Mr. Fisher was aware that Lord Haldane, in making the previous offer, said he was acting with the consent of the Prime Minister. Mr. Fisher replied that he was not aware of that.

University of London New Buildings.—Sir W. Davison asked on November 15th, whether a deputation from British universities which waited on the Chancellor of the Exchequer and the Minister of Education some time ago were informed by the Government spokesman that universities throughout the country were expanding beyond their means, and had been more anxious to extend their buildings than to pay adequately their existing staffs, whose salaries were much too low; and whether in the circumstances the Minister of Education would restrain from exerting further pressure on the University of London to issue an appeal for funds for the erection of new buildings, until such time as provision had been made for the payment of adequate salaries to its teachers. Mr. Herbert Lewis replied that the deputation was warned against the danger of attempting extensions into new fields of work unwarranted by their financial position. The question of new buildings for London University was, however, one of providing adequate accommodation for the existing activities of the university, and the Government did not consider that delay would be in the best interests of the university. The Minister had no evidence that the university was neglecting the important question of the adequate remuneration of teachers in its employ.

Maternity and Child Welfare.—Dr. Addison states that the following local authorities have made arrangements under Section 1 of the Maternity and Child Welfare Act, 1918: (*a*) All the 29 metropolitan borough councils (including the Common Council of the City of London); (*b*) all the 82 county borough councils in England and Wales; (*c*) all the 62 county councils in England and Wales, except the London County Council, which has no powers under the section, and the Glamorganshire County Council; (*d*) the councils of 306 of the 1,703 sanitary districts for England and Wales, including most of the larger non-county boroughs and urban districts. Of the remaining 1,397 sanitary districts, 1,390 are included in county councils' schemes, and are covered by arrangements made under such schemes. The seven districts in which no arrangements have been or are being made are small urban and rural districts.

The Registration of Chemists and Druggists.—Mr. Crooks asked, on November 11th, whether a by-law made by the Council of the Pharmaceutical Society and approved by the Privy Council in February, 1920, deprived all persons holding the assistant's certificate of the Society of Apothecaries who had served with the forces during the late war from being registered as chemists and druggists and restricted registration to persons who had been continuously employed in a strictly limited number of institutions and so deprived many fully qualified persons from registration contrary to the express intention of the Act of 1908. Mr. Crooks further asked for amendment of the by-law so as to allow of registration of all the assistants of the Society of Apothecaries who held certificates at the time of the passing of the Poisons and Pharmacy Act, 1908, provided they had been engaged in dispensing for a reasonable time, not necessarily continuous, since 1908, so as to admit of the registration of ex-service men. Mr. Balfour replied that the by-law aimed at meeting an old complaint of the certified assistants to apothecaries against the Pharmaceutical Society and was accepted as a fair compromise by the Society and the Association of Certified Assistants. There was no power to induce the society to go further on the road of concession.

Ex-service Men in Lunatic Asylums.—In reply to Mr. Swan, Dr. Addison, on November 15th, repudiated the suggestion that discharged soldiers and sailors, suffering only from temporary loss of memory, attributable to the war, were detained in lunatic asylums. He said there were, of course, many ex-service men, suffering from various forms of certifiable insanity, in which loss or impairment of memory might form one of the symptoms. Such men were kept as private patients under satisfactory conditions. To remove them to separate homes or institutions would be neither economical nor in the interests of the patients themselves.

The Casualties in Mesopotamia.—On inquiry by Mr. Kenyon, Mr. Churchill has given the following figures of the approximate number of casualties in Mesopotamia from the date of the armistice with Turkey, October 31st, 1918, to October 31st, 1920:

	British (including Officers with Indian Units).		Indian Natives.		Total.	
	Officers.	Other Ranks.	Officers.	Other Ranks.	Officers.	Other Ranks.
Killed in action and died from wounds	43	40	17	806	60	846
Wounded	48	58	47	2,323	95	2,381
Missing (including prisoners)	5	227	3	436	8	663*
Total	96	325	67	3,565	163	3,890

* Of this number, 79 British and 94 Indian native prisoners have since been released.

A White Paper has recently been issued fully explaining the provisions of the Tuberculosis Bill, and giving an estimate of the additional charge upon rates and taxes consequent upon the bill.

Regulations to determine the standard for condensed milks are now in an advanced stage, and will shortly be issued.

THE CONDITIONS OF MEDICAL RESEARCH.

ADDRESS BY SIR ALMROTH WRIGHT.

AT a meeting of the Royal Society of Medicine on Armistice Day Sir Almroth Wright, the first recipient of the Society's gold medal, gave an address on medical research.

Sir JOHN BLAND-SUTTON, who presided, said that a Fellow of the Society had furnished funds to enable a gold medal to be awarded triennially. The President was charged with the selection of a committee, who should choose three names for submission to the Council, with whom the final decision rested. The donor desired that at any rate the first medal should be awarded for work which had proved to be of service in the war, and Sir Almroth Wright's bacteriological researches amply fulfilled this condition, for they had been the means of securing immunity from typhoid fever.

Sir ALMROTH WRIGHT said that his emotions would not permit him to express his gratitude, but one subsidiary reason for which he valued the medal was because it enabled him to give an address, and perhaps, such was the effect of honours, to reach an audience larger than the one actually in the room. If he ventured to say some disagreeable things, it was not by intentional offence, but every reformer was certain to meet with such necessity. He wished to consider the kind of knowledge required to improve prophylaxis and treatment.

Science consisted in the first place of descriptive detail. To name a muscle and say that it had a particular insertion, to say that a microbe had certain properties, or that certain manifestations followed each other in the course of a disease was all descriptive detail, and such description might be either narrative or attributive. The next step in science was generalization. In a particular group of people the observer might discover, among many points of difference, certain common characteristics, and might found a generalization upon that agreement. This was a descriptive generalization from a large quantity of detail. But there was another kind of generalization. The patient might inform his doctor that a certain thing had happened to him, and then something else, and so on—a story in itself not of much value, but enabling the doctor to predict that this syndrome of events always produced a further event or consequence, and this was a genetic generalization.

Generalizations the Aim of Research.

Most people quickly tired of descriptive detail. Every time a man was confronted with any considerable amount of detail his natural inquiry was as to the result or object of this collection. The thing which was wanted was generalization. It was impossible to do without a great number of details, but a great number of others were of no service whatever. Descriptive details were very easily obtained; they belonged to the lowest plane of science. Those whom he was addressing would not care to see people decorated or gaining admission to learned societies because they had accumulated a great mass of detail on some minute subject. Nevertheless, there were people who piqued themselves on their acquisition of detail. They said that generalizations were open to doubt, whereas details were ascertained facts; there was a good deal to be said for that contention. The details were probably mostly facts, and the generalizations might be erroneous, so that this point must be conceded to the lovers of detail.

Generalizations, however, must be the objective of research. It was when we got hold of descriptive generalizations that we became more or less educated people; but if we wanted to go on to something practical, the genetic generalization must be sought, or, in other words, the causes and consequence. What was commonly called "cause" was not singular but plural. The idea of a single cause for anything came down from the cave man and the savage. But the patient believed that there was one particular cause for his condition, and he could not be got to eliminate the word "cause" from his vocabulary any more than the corresponding word "cure." The tubercle bacillus was commonly regarded as the cause of tubercle, yet those whom he was addressing well knew that it would require much more than the tubercle bacillus to make them tuberculous subjects. It was quite erroneous to suppose that causation had been solved when one factor had been admitted. The question of cause and effect he had tried to settle by defining a genetic generalization as that complex or syndrome of events which produced another definite effect. It was very important, fundamental indeed, to get a definition of genetic generalization.

The next problem was, supposing genetic generalizations to be useful, how should they be made? Details of observation were within everybody's power to collect. A thousand men could go to work and get as many details as could possibly be wanted. The medical journals were full of such descriptive detail, much of it merely narrative and not attributive. On the other hand, there were very few new generalizations forthcoming. Generalizations were things of slow growth and were produced only by a superior class of intellect. If it was a question of finding a new disease, or, as it was in Jenner's day, of distinguishing between typhus and typhoid fever, an intellect of the Jenner kind was needed to make the generalization. To make a new generalization was a great feat. The man who could make careful generalizations had the same gift of mind as one who could diagnose. Only very great study and knowledge and insight would make it possible for a man to arrive at a good guess as to what genetic factor was connected with the particular disease resulting.

Verification by Experiment.

Having made the generalizations, the next thing was to verify them. He believed that four generalizations out of five which men made were wrong, and that nine generalizations out of ten which women made were wrong. The scientific worker was a man of imagination who afterwards knew how to verify. The affirmation that a certain thing was a cause of another required the test of experiment. It was of no use to say that this or that was a cause—or, what came to the same thing, that this or that was a remedial agent—unless experiments were made to verify such conclusions. The object of medical research was to get generalizations, if possible; but they could not be commanded, whereas verification or non-verification by experiment could be commanded. Every generalization was of slow growth; the work on some common generalizations was by no means yet complete. We did not yet know what was the cause of consumption; we had only an incipient genetic generalization in that case. Research had to occupy itself with the verification of generalizations for the purpose of prophylaxis and treatment. Experiment was the natural machinery by which this was done, although many experiments were futile and led to no result. Every man thought he could make and test a generalization. Take a perfect outsider, a layman—whom some would call a quack, but the speaker would abstain from opprobrious terms—who wanted by experiment to decide whether a particular remedy did good. This investigator proceeded by getting a number of cases together which he thought were all alike, intending to test the effect of a certain nostrum on cancer. But apart from other things which vitiated his experiments, they were invalidated at the start by the fact that among the cases he included as cancer were some which were not cancer at all. All experiments made by laymen on the efficacy of remedies or the truth of causation might be left out of account.

But what of experiments made by ordinary clinicians? The speaker instanced deductions arrived at from a large number of gas-poisoning cases at the front; the gas-poisoning cases were regarded as forming a single group, but they did not fall into one group at all, some men dying from central nervous system poisoning, others from acute inflammation of the lungs. Ordinary experiments done by clinicians in order to find out whether certain things were useful were not conducive to clear results. It was never known in such experiments how far one factor might be playing off against another. Then there was the statistician, who claimed from the outside to be able to correct the deductions of others. The statistician was incompetent to say whether a given group was quite homogeneous. His results also were tabulated in rough categories; only death on the one side and life on the other were taken into consideration. Further, a general doctor who had made a judgement, for instance, on the basis of experiment on a particular remedy, was, as a rule, extremely modest about it, knowing how open it was to error; but the statistician was inclined to speak pontifically about his results, and declare that they could not be questioned. Any method of verification which could not

be repeated by the next man was a bad method, and the statistical method could not be repeated by others except at great labour and expense.

Sir Almroth Wright concluded that the scientist in a laboratory was in a better position than anyone else to determine the results of any method. If a hospital had not laboratory men at its command, it had no means of direct testing, and this was a serious matter, because it meant that medicine could make no progress. He pleaded for the institution of research in connexion with hospitals by a staff trained in methods of discovering immediate effects, not a staff of clinical men who were available for administering treatment. The business of the research staff would be to test new things, to make generalizations for themselves and verify those put forward by others.

To sum up: A layman could not do medical research; his lack of knowledge prevented him from proper experimentation. A man who had taken his medical degree authorizing him to practise was excluded by the fact that he had not received a laboratory training. Laboratory training should be given with a special view to research work. Scholarships should be devoted to this purpose, and the men who were trained in research and were found fit for it should have permanent posts and an increasing salary as in other walks of life. A good deal of research work could only be done in connexion with hospitals; little could be done in detached laboratories on account of paucity of ideas, but the hospital provided new material and problems. A staff of scientific workers in hospitals was an urgent requirement; without it little advance could be made, because there could be no adequate testing of results, and the men engaged in laboratory work should have their share in the direction of policy.

At the conclusion of the address a vote of thanks was accorded, on the proposition of Sir Alfred Keogh, seconded by Sir Humphry Rolleston, both of whom bore testimony to the debt owed by medical science to Sir Almroth Wright's researches.

INTERNATIONAL HEALTH CONFERENCE AND VENEREAL DISEASE.

The Ministry of Health has issued the following statement, dated November 10th, 1920:

The Office International d'Hygiène Publique has within the last few days concluded its autumn session, and the conferences, which extended over a period of ten days, were of exceptional interest and importance. Among the several subjects connected with public health that were discussed, the question of venereal disease amongst merchant seamen occupied a prominent place, and considerable time was devoted to a problem that not only concerns the seaman himself, but closely affects the population of maritime and river ports in all countries. As is now well known, an active campaign has been instituted by the Ministry of Health in this country by the establishment by local authorities of treatment centres for venereal disease in all populous districts, and similar steps have been taken by many health authorities abroad. But the value of such treatment depends, to an extent not generally understood, on its systematic continuance, in some cases for many months, and the merchant seaman, by the conditions of his employment, is frequently prevented from obtaining it. His long absences at sea render him peculiarly liable to contract these diseases on his occasional visits ashore, and to become a means of spreading them at other ports and on his return home. The Office International considered that the matter was of such importance that it was not only advisable but urgently necessary that a regular system should be established by international agreement to provide the means by which merchant seamen might obtain continuous treatment for venereal disease at seaports, and they have prepared a draft international arrangement on the subject for submission to the different Governments and to the League of Nations. As the members of the Committee of the Office International are experts officially appointed by the Governments of the countries they represent, any recommendations they put forward must of necessity carry great weight.

The proposed international agreement would provide for the establishment of special centres in the chief sea and river ports of all countries at which merchant seamen, irrespective of nationality, could obtain free and skilled treatment for venereal diseases. By means of special confidential forms containing medical notes of diagnosis and treatment to be supplied to the seamen, the doctor at the next port of call would be enabled to continue the treatment with an accurate knowledge of the history of his patient and of the steps that had previously been taken to deal with the case. The seaman would also be provided without cost with such drugs or dressings as may be necessary for him during the voyage from port to port; and in order to bring the existence of these free treatment centres to the knowledge of the seamen, and to induce them to take advantage of them, a duty would be laid on ship-masters and port health authorities to inform the crews of all vessels entering a port of the situation of these centres and the hours of consultation.

Many other questions of great social as well as medical importance were discussed at the recent conferences, including the international aspect of industrial tuberculosis and the hygiene of ships' crews. Considerable time was also devoted to consideration of the revision of the International Sanitary Convention of 1912. The British delegates put forward a series of important proposals to bring international measures for the prevention of the spread of infectious diseases into accord with recent scientific knowledge and with the new conditions of administration which have arisen since the war. The proceedings were of special interest in view of changes that may shortly be brought about in the constitution of the Committee of the Office International d'Hygiène Publique. This office was established in 1907 by an international agreement, to which nearly forty different countries are parties, and at the session just concluded thirty States were represented, the British delegates being Dr. G. S. Buchanan (Great Britain), Sir Havelock Charles (India), Dr. A. Granville (Egypt), Dr. Perrin Norris (Australia), Dr. Steegman (Canada), and Dr. P. G. Stock (South Africa).

It is now proposed that the work of the Office International should be continued in association with the League of Nations, and that with certain modifications it should form an integral part of the scheme for an International Health Organization which is to be submitted by the Council of the League to the forthcoming assembly at Geneva.

Scotland.

The Scottish Consultative Council.

Sir Harold Stiles has been compelled, owing to the increasing pressure of his duties as Regius Professor of Clinical Surgery at the University of Edinburgh, to resign his seat on the Scottish Consultative Council, and Dr. Donald J. Mackintosh, C.B., M.V.O., medical superintendent of the Western Infirmary, Glasgow, has been appointed in his place. We understand that the report of the Council has been completed and that publication may very shortly be expected.

Midwives in Scotland.

Dr. Michael Dewar and Dr. J. Wishart Kerr, the representatives elected by the Scottish Committee of the British Medical Association to the Central Midwives Board of Scotland, report that during the year 1919–20 five board meetings were held, three special meetings to deal with penal cases, ten committee meetings, and four examinations for midwife candidates. In connexion with the penal cases the names of seven midwives were removed from the roll and their certificates cancelled; one midwife was suspended, and a number of cases were held over for report from the local supervising committee. Of 392 candidates for examination 328 passed and were admitted to the roll, which now includes 4,030 names. About half of these women are engaged in the practice of midwifery. Opportunities are being afforded in many districts for giving instruction in the use of the thermometer and in the keeping of records to untrained midwives who were in bona fide practice at the time of the passing of the Midwives Act. With a view to encouraging the employment of properly trained midwives the medical officer of health of Port Glasgow has initiated a scheme (approved by the local authority and by the Scottish Board of Health, in connexion with a maternity and child welfare scheme) whereby a bonus of 5s. per case attended is paid to trained and certificated midwives.

Future of Hospitals.

A discussion on the future of hospitals under the Ministry of Health took place at the annual meeting of the Medical Guild, Edinburgh, on November 12th. The retiring president, Dr. John Playfair, introduced his successor, Emeritus Professor Caird, and the discussion was opened by Dr. A. Blackhall-Morison (London), who said that the future of hospitals was part of a larger political situation. Dr. Ebenezer Duncan (Glasgow) said that there were three ways in which hospitals could be carried on—the first was the German system, in which they were carried on by the Government and every member of the community had a right to admission; the second was the American system, in which there were three classes of patients—those who paid fully, those who paid partially, and those who paid nothing; the third was the system existing in Scotland and England. The Board of Health was really an autocracy, and an autocratic system ought to be opposed tooth and nail in medical matters. The committee of the hospital at Bellahouston, of which he was a member, had the greatest difficulty in getting the Ministry of Pensions to supply promptly means for the proper treatment of patients. Professor Caird, Dr. Alexander James, and other speakers, protested against the proposal to put voluntary hospitals on the rates. Eventually the following resolution, moved by Dr. Frederick Porter and seconded by Emeritus Professor Russell, was approved:

> As the present financial difficulties affecting voluntary hospitals have not been caused by any fault in administration, this meeting of the Medical Guild is of the opinion that, before any change is made in the system, steps should be taken immediately by hospital authorities to devise a scheme whereby patients should contribute towards their maintenance according to their circumstances.

Small-pox in Scotland.

No further cases have occurred in connexion with the outbreak, on October 13th, of small-pox at Craiglockhart Poorhouse, Edinburgh, referred to in the Journal for October 23rd. A month has now elapsed, so that it may be fairly concluded that the speedy and thorough methods taken to prevent infection proved sufficient. Dr. Maxwell Williamson reported that no fewer than 900 of the inmates as well as the officials of the institution had been vaccinated. The patients under treatment were reported well. In Glasgow also the epidemic has greatly decreased; now and again a solitary case is reported, but the total number in hospital on November 12th was only 29, as against 70 on October 9th. On the other hand, there has been an outbreak at Kirkintilloch, about eight miles north-north-east of Glasgow. Seven cases were removed to hospital on November 4th, another (from the same family) on the 5th, two on the 6th, two on the 8th, four on the 10th, and two on the 11th, when there were 26 cases in all under treatment. Great numbers of people were taking advantage of the free vaccination offered.

England and Wales.

Bradford Municipal Hospital.

We gave last week (pp. 753 and 763) an account of the position brought about in Bradford by the action of the Health Committee of the City Council in taking steps to establish a municipal general hospital without consultation with the medical profession. It was mentioned that a very large and representative meeting of the medical profession in Bradford was held on the evening of November 3rd under the auspices of the British Medical Association, at which certain resolutions were adopted, among others one asking the Ministry of Health not to consider the proposals of the Bradford Health Committee until the medical profession had been consulted. The meeting was adjourned until November 10th, when the following resolutions were adopted:

> That this meeting of the Bradford medical profession thanks the Minister of Health for withholding his sanction to the Bradford Health Committee's General Hospital Scheme until the local profession has been effectively consulted.
>
> That the past and present policy of the profession in Bradford has been and is in accordance with the principles of the "Dawson Report," especially as regards the fundamental importance of the general practitioner in the health service of the country.
>
> That the meeting urges the Minister to assist the local profession in getting the local health authorities to carry on their municipal medical work on the lines of the principles suggested in this resolution. In so doing the Minister will have the whole-hearted support of the Bradford medical profession.

Steps were also taken to provide for the election of a local advisory medical committee, to be composed of three consultants, nine general practitioners, and two whole-time officers.

Royal United Hospital, Bath.

The Royal United Hospital, Bath, established nearly a century ago, is embarrassed by the increase in the cost of maintenance accompanied by an increase in the demand for hospital treatment, and in its complexity. The conclusion has been reached that the time has come when the finances of the hospital must be placed on a different basis; not only must measures be taken to collect small weekly charges from the existing class of patients, when their means permit, but provision must be made for paying patients on business lines. It is proposed to acquire the site at Combe Park, formerly occupied by the Bath War Hospital and now by the Ministry of Pensions Hospital. The site extends to twenty acres, and can be easily reached from the centre of the city. An appeal is being made for funds to build and establish a hospital for paying patients, containing 100 beds and private rooms, and small wards, where patients can be accommodated for from 3 to 5 guineas a week, and where they can be attended by their own doctors. It is intended also to establish a maternity home containing 40 beds; some of this could be maintained by the municipality for the use of the poorer patients; the remainder will consist of private rooms for patients who can afford to pay. Eventually all departments of the hospital will be transferred to the new site. On Armistice Day (November 11th) Sir Wilmot Herringham gave an address at a public meeting at the Guildhall, Bath, on behalf of the scheme.

Presentation to Dr. Alexander Forbes.

Members of the medical profession in Sheffield entertained Dr. Alexander Forbes at dinner on November 11th, after which he was presented with a silver tea tray as a memento for his services to the profession. Dr. R. Gordon presided, and, in asking Dr. Forbes's acceptance of the gift, spoke of the self-sacrificing work he had done in the interests of the medical profession as a city councillor. The Chairman emphasized the importance of medical men with their special knowledge serving in such capacity to watch the interests of the health of the citizens. Dr. A. J. Hall and Dr. J. G. Mylan also spoke of the admirable services Dr. Forbes had rendered the profession. Dr. A. E. Barnes made a presentation to Mrs. Forbes. In acknowledging the gifts, Dr. Forbes referred to the amicable relations which now existed among the members of the profession, and urged that more doctors should enter public life in view of the great health schemes now being brought forward. The toast of the City and Corporation was proposed by Dr. Alfred Cox, Medical Secretary of the British Medical Association. He referred to the valuable services Dr. Forbes had rendered as a steady, straight, and wise councillor on the Central Council of the Association. It was, he said, a matter of the highest importance that public health matters should be administered in partnership with the medical profession. The Lord Mayor of Sheffield acknowledged the toast, and appealed to the profession to send representatives to the city council, not as doctors but as men with special knowledge of the needs of the city in matters of health. Dr. Forbes, who is a member of the Central Council of the British Medical Association, has served on the Executive Committee of the Sheffield Division since 1908, and was chairman of the Division in 1910. He has also been a member of the council of the Yorkshire Branch since 1912.

The L.C.C. and Massage.

In pursuance of Section 23 of the London County Council (General Powers) Act, 1920, notice is now given that on and after January 1st, 1921, no person may carry on in the County of London an establishment for massage or special treatment (defined as "manicure, chiropody, light, electric, vapour, or other baths, or other similar treatment")

without a licence from the Council. Certain hospitals, infirmaries, government, municipal and other institutions of a like character, philanthropic institutions, and "establishments carried on by qualified medical practitioners and by hairdressers under certain conditions," are exempt. Evidently, in the eyes of the London County Council, the old identification of the surgeon with the barber still exists; but, while the hairdresser is only required to have a certain open arrangement of his shop, the registered medical practitioner is required to furnish a certificate of being a suitable person from two other medical men in the County of London. The exact wording is, that the Act does not apply to

an establishment for massage or special treatment carried on by a duly registered medical practitioner, subject to the Council being furnished with a certificate, in a form approved by the Council, signed by two duly registered medical practitioners practising or residing in the County of London, not being in partnership with such first-mentioned medical practitioner or with each other, and not having any financial or other interest in such establishment, to the effect that the medical practitioner carrying on or proposing to carry on the establishment is a suitable person to do so. All such certificates of exemption must be submitted in sufficient time (that is, at least fourteen days) before December 31st in each year to enable the Council to satisfy itself that the required conditions have been complied with.

Although the Council is empowered to make by-laws as to the technical qualifications to be possessed by persons administering massage or other curative treatment in such establishments, it does not appear to have done so. It would not have been beyond its powers to have limited the practice of massage and curative treatment to persons who could produce evidence of competence to do so.

Ireland.

CHAIRS OF GYNAECOLOGY AND OBSTETRICS, BELFAST.

AFTER the death of Sir John Byers, who was professor of midwifery and gynaecology, the Senate decided to separate the chairs, and at a special meeting held on November 8th appointed Mr. R. J. Johnstone, M.B., F.R.C.S.Eng., gynaecologist to the Royal Victoria Hospital, Belfast, to the chair of gynaecology, and Dr. C. G. Lowry, F.R.C.S.I., obstetrician and gynaecologist to the Ulster Hospital for Women, and assistant gynaecologist to the Royal Victoria Hospital, to the chair of midwifery and diseases of infants. Both these appointments are very popular in the profession and will strengthen the medical school. Both of the new professors had brilliant university careers, are tried men and experienced teachers and operators; everyone will join in congratulations and wishes for a long period of usefulness.

Correspondence.

THE FUTURE POSITION OF "A LA SUITE" OFFICERS IN TERRITORIAL HOSPITALS.

SIR,—It appears to be quite time that some action was taken by the profession, and perhaps by the Naval and Military Committee of the British Medical Association, in this matter.

I have discussed this question with several administrators of these hospitals, and find that there is pretty general agreement on the following points:

1. The permanent personnel should be as at present, with the addition of one officer to act as president of boards, etc.
2. Consultants should act as consultants, not as house-physicians, house-surgeons, or registrars, and should not be placed on medical, equipment, or inquiry boards.
3. They should attend at the hospital for stated visits, in exactly the same manner as they now attend at the civil hospitals.
4. The staff of consultants should consist of four to eight physicians, and four to eight surgeons with certain specialists—that is, anaesthetists, laryngologists, radiologists, dentists, aural surgeons, bacteriologists, pathologists.
5. *Military Rank.*—I am of opinion that this is quite unnecessary. Most consultants have had no military training, and neither desire rank nor to wear uniform. The permanent personnel and resident staff must of course have rank, etc. Patients would just as soon, and probably sooner, be treated by a well-known consultant in civil attire as by someone in uniform.
6. *Payment.*—Work done for the State should be paid for by the State. The visiting staff should be paid so much per attendance. I suggest that two guineas per attendance would not be inadequate.

It was the desire of all sections of the civil profession to make the best of the available man-power during the late war, but it was manifest to many of us, and especially to those who served on the Central Medical War Committee, that this was not carried out by the authorities. Physicians and surgeons attached to large teaching hospitals had to act as orderly officers, to serve on boards, etc., these duties sometimes taking up the whole twenty-four hours. This led to neglect of our work in the civil hospitals, not only as regarded the patients but also the teaching of students, and it was work which could have been done as well, or better, by someone less skilled than a specialist. When mobilization is ordered, then junior officers, other than those in category A, should be appointed to act as—

House-physicians and house-surgeons.
Orderly officers.
Members of boards, and perhaps some other duties.

Another question which gave rise to some dissatisfaction was the meagre way in which our services were recognized at the conclusion of the war. No medals of any kind have been given, unless for service overseas. This, to me, is a matter of little or no importance and may be considered as a "growse," but the fact remains that very little recognition of our services was given, although we were mobilized at the commencement of the war and served almost continuously.—I am, etc.,

Birmingham, Nov. 11th. ALBERT LUCAS.

EARLY SYMPTOMS OF NERVOUS DISEASE.

SIR,—In a footnote in the BRITISH MEDICAL JOURNAL, p. 693, Dr. Henry Head calls attention to the necessity of expressing a diagnosis in a threefold terminology, and points out that this method is best exemplified in cardiac disease.

For example, it is useless to say only that the patient suffers from "mitral stenosis." The full diagnosis should be expressed somewhat as follows: "Auricular fibrillation," the disorder of function; "stenosis of the mitral valve," the organic destruction; and "acute rheumatism," the pathological process responsible for the condition of the heart.

But why stop at acute rheumatism? Should we not go a step or two further and search for a cause of the acute rheumatism? To inquire, for instance, whether a defective activity of the kidney eliminative cells has not resulted in an accumulation of toxins ending in their general expression as acute rheumatism, and, if this is so, what has led to the defective activity of the kidneys? Has the patient been exposed to repeated chills? Or has there been continual error in diet, chronic constipation, excessive smoking? The advantage of this inquiry being that such possible ultimate causes as the latter are directly under the patient's control.

The busy practitioner is apt to forget what an important part the kidneys play in the causation of disease, and that it is a grave mistake to assume that because casual examination of the urine shows absence of albumin or sugar all must necessarily be well so far as the kidneys are concerned. Patients who are continually passing clear colourless urine of low specific gravity are far more liable to succumb to nervous diseases than those whose urine yields small quantities of albumin or sugar—in the latter there is little impediment to the elimination of toxins, while in the former toxins—that is, products of katabolism—are steadily accumulating in the blood and tissues, and when a certain percentage is reached the tissues, by their lowered vitality, lose their power of resistance to the onset of bacteria, the defenceless patient becoming more and more liable to the invasion of any disease.

It is fortunate for the human race that the glomeruli rarely lose their power of eliminating pure water, for when this is the case acute uraemia quickly puts an end to the scene; on the other hand, a patient may go on for years with defective activity of the tubular epithelium and live in a chronic state of ill health, the victim of any disease a toxaemia will give rise to, the particular tissue selected for attack being, of course, that one congenitally least able to resist the toxaemic invasion. Were defects of the tubular

epithelium as quickly fatal in their inability to eliminate toxins as happens when the Malpighian corpuscles are unable to eliminate water, one might safely say that two-thirds of the human race would perish, the result being truly a "survival of the fittest," and such survivors would be indeed fit enough to please even the eugenists.

I well remember a case of progressive muscular atrophy where the urine stood continually at the enormous height of 1060 sp. gr., depositing heavy masses of mud-coloured urates. This patient could not understand the difference in the colour of the urine, which since his illness was heavy and muddy, but for years previously had been usually clear and colourless as tap water. The difficulty in this case is to understand why the tubular epithelium before the disease should have been practically dormant, and yet after the disease was manifest it should take on such extreme activity and readily eliminate the katabolic toxins of the rapidly disintegrating tissues. Had it been otherwise this case must have ended fatally in an early stage of the disease from acute toxaemia, long before a true diagnosis could have been arrived at, and yet the retention of toxins while the urine was colourless was probably the starting-point of the muscular atrophy. There was no history of syphilis.

Reviewing the papers on the "Early symptoms of nervous disease," one is struck with the want of attention to other causes of these troubles than *Spirochaeta pallida*. Dr. Theodore Thompson alone mentions intestinal toxaemia, and as defective kidneys are nowhere "called in question," I have ventured to write this reminder, feeling sure that, were this cause continually borne in mind, much floundering in search of a diagnosis and of the still more elusive etiology would be avoided.

The frequency with which certain nervous diseases are labelled hysteria reminds one of an amusing reply made many years ago by the late Edward Hallaran Bennett in the University of Dublin. A young student believing that the case of a certain young man described by the lecturer was one of hysteria, Bennett promptly refuted the diagnosis by the remark, "He hadn't a uterus."—I am, etc.,

Liverpool, Nov. 9th. WILLIAM BRAMWELL.

A UNIFIED MEDICAL SERVICE.

SIR,—Your issue of October 16th contains a letter from Colonel Elliot, Chairman of the Naval and Military Committee of the British Medical Association, which may be construed as indicating that the late General Sir William Babtie was in favour of a scheme for a unified medical service, one of the provisions of which would exclude the R.A.M.C. from service in India as a body.

Having had the privilege of the intimate friendship for many years of the late General Babtie and numerous opportunities of discussing with him questions of medical organization—past, present, and future—I can with confidence assert that the unified medical service, the establishment of which he had so much at heart, did not involve any curtailing of the present activities of the R.A.M.C.; on the contrary, his view was that the R.A.M.C. should assume responsibility for all military medical duties in India, leaving civil duties to be performed by officers who may be transferred to that branch of the unified service.

It is not the purpose of this letter to enter in any way into a discussion of the merits of rival schemes for unification, but I may be permitted to remark that the above indicated arrangement would fit equally well with that proposed by the Verney Lovett report into any unified scheme.

I may add that several senior officers to whom I have spoken on the above subject agree with the view I have put forward of the late General Babtie's ideals of reform.—I am, etc.,

WM. DONOVAN,
London, Nov. 8th. Major-General A.M.S.(ret.).

TUBERCULOUS MILK.

SIR,—Some confusion appears to exist in the minds of certain of your correspondents who have taken part in this discussion as to the distinction between infection or sensitization with a pathogenic organism and the development of the actual disease to which it can give rise. For instance, in his communication of November 6th Dr. S. Nicol Galbraith says:

> After being a medical officer in Brompton Hospital for eight months I, with four other residents, gave a positive von Pirquet's reaction. This may prove infection but certainly not immunity.

Some of us on the staff of the City of London Hospital for Diseases of the Chest carried out, or attempted to carry out, in our own persons an analogous experiment to prove the degree of our resistance; and although too much stress must not be laid on the quantitative results, we all showed a *plus* degree of resistance and a positive von Pirquet reaction. Our interpretation of the phenomena observed was apparently entirely opposed to the view Dr. Galbraith holds. We did not regard the evidence of a positive von Pirquet reaction as showing that we were suffering from what is commonly regarded as tuberculous disease; on the contrary, we rejoiced in our "relative immunity." But I do not think, however, that any of us would recommend life in a tuberculosis institution as a safe prophylactic against tuberculous disease.

Again, in the same letter Dr. Galbraith says:

> A child with virulent diphtheria . . . coughed in my face. Two days later I gave a positive swab, but did not develop clinical diphtheria. I do not therefore believe I am immune to diphtheria.

Surely it follows that if Dr. Galbraith, or anybody else, can carry such virulent germs as those of diphtheria in his throat without them entering his system and giving him the symptoms of the disease, he may be regarded as "relatively," if not "absolutely," immune to the disease, at any rate for the time being; if this is not so, I do not understand what the term "carrier" implies.

With respect to the infection of infants with tuberculosis, my personal experience is that all and each of them, without exception, become "infected" if they live in the same house with an open case of tuberculosis, and generally so if they drink unboiled milk which contains living tubercle bacilli, but this is a very different thing from developing the disease tuberculosis. Many infants exposed to such sources of infection, and giving a strongly positive reaction to Koch's "old tuberculin" when hypodermically injected, have during a prolonged period of observation shown no clinical manifestations of tuberculosis, and have remained in perfect health as far as I was able to judge. But there is always a great danger that definite tuberculous disease may develop in such children if their organs become damaged by intercurrent or debilitating diseases. For many years past I have been in the habit of attempting to raise the resistance of such infants by the regular injection of increasing doses of tuberculin during a prolonged course of treatment. That by such treatment the resistance can be raised I have convinced myself by much indisputable evidence. I prefer this method to the uncontrolled and uncontrollable method of allowing the infant to inoculate himself from the environment or with tuberculous milk containing an indefinite number of bacilli, and of indefinite degree of virulence.—I am, etc.,

London, W., Nov. 8th. ERIC PRITCHARD.

SIR,—Recent correspondence has again brought to the fore the diversity of opinion held by the medical profession on milk and tuberculosis. In the Leeds and Liverpool tuberculosis conferences this was manifestly evident. Against sweeping statements on the undue recognition of milk as a great source of tuberculous infection—almost to frighten the lay public from using a valuable diet, which has been the chief food in the treatment of tuberculous and pre-tuberculous cases—whilst ignoring factors lowering individual resistance, let us examine available facts and recent research figures. The period of life when milk may be a source of infection and of greatest mortality from tuberculosis in childhood is under 5 years. In 1911 deaths from tuberculosis under 5 were 16.7 per cent. of the total for the whole of life. Admitting errors of diagnosis, the figures of the Registrar-General for England and Wales may be taken, and an abstract of the analysis by Louis Cobbett, in his valuable work *The Causes of Tuberculosis*, of the recent research of the Royal Commission, Park and Krumwiede, Rothe, Eastwood and F. Griffith, A. S. Griffith. Mitchell,

Fraser, etc., including Continental and American experts, may be advantageously tabulated.

Classification of Deaths from Tuberculosis under 5 in 1911.

	Total Cases.	Bacteriologically Investigated.			
		No.	Cases Found.	Per Cent.	Type of Bacillus.
Meningitis	3,347	100	80	80	Human.
Peritoneum and intestine ...	2,700	30	17	56	Bovine.
Acute miliary or disseminated	1,512	51	41	80	Human.
Pulmonary, acute or otherwise	1,121	65*	61	93	Human.
Bone and joints or other organs	197	72†	39	54	Human.

* Under 12 years. † Bone and joint cases only.

Thus one clearly sees from the above laborious research that the fatal forms of tuberculosis in childhood are due to the human type of bacillus, excepting the abdominal cases. After the age of 15 nearly 90 per cent. of deaths from tuberculosis in 1911 were from pulmonary disease. Now in adults, in 26 cases of pulmonary disease 25 showed the human type of bacillus and one a mixture, the material being from the lung or other organs. In 938 samples of sputum 932 showed the human type. In cervical gland cases under 5 an estimate of 75 per cent. with the bovine type of tubercle bacillus is made generally from material of improved cases; irrespective of age, this estimate, according to Cobbett, is only 50 per cent. But cervical gland cases, bone and joint cases, and most abdominal cases, with proper treatment and timely diagnosis, should seldom prove fatal. In those fatal cases where bovine bacillus and milk infection can be proved we ignore factors like infectious diseases, etc., which lower resistance in children. Tuberculous meningitis accounts for the largest number of deaths in the above classified group. Besides the 80 per cent. human tubercle bacilli found in the majority of such cases, the primary infection is in the bronchial glands, all pointing to respiratory infection, possibly from human source when vitality is lowered. In over two years' work in a large fever hospital I came across a large number of deaths from tuberculous meningitis or general tuberculosis in cases under 5 sent on mistaken diagnosis or following infectious diseases. I saw less of such cases for the same age in dispensary or sanatorium work. Again, in district work one does not see among the children in healthier localities and better social position so much tubercle of glandular or abdominal type as in the poorer quarters, though with a common source of milk supply. By all means let us take all due precautions to ensure clean, wholesome milk, and enforce all necessary regulations for that purpose. But let us not condemn all milk; let us regard it as not the greatest source but as a possible source of certain forms of tuberculous infection in children especially, when other factors, social, economical, and environmental, are at work to reduce resistance and expose children to infection.—I am, etc.,

Z. P. Fernandez, B.A., M.D.

Leeds Central Dispensary for Tuberculosis,
Oct. 26th.

Sir,—Your correspondents writing on the presence of tubercle bacilli in milk appear to miss the point that bacteria must be killed before they can be relied upon to produce immunity. Bacteria are killed by boiling (pasteurizing is inefficient for most bacteria), but milk is not boiled in this country before it is sold and very few lay people will trouble to boil their milk after they get it; hence it is at present a vehicle for disseminating disease. My experience (which is quite contrary to what is taught) is that feeding babies on boiled milk is a complete success if the milk is good, and I have often wondered whether the bad results sometimes obtained have been due to a too drastic administration of dead bacteria. May not a really dirty boiled milk act on a susceptible infant like too high and too frequent doses of a vaccine? Whatever the explanation, I can assure any practitioner who may care to try this method that if so-called vitamines are necessary to the life and health of babies, they are not destroyed by boiling clean milk. In connexion with this question of clean milk, I think that the attention of the medical profession should be drawn to the extraordinarily comical ideas of the Milk Section of the Ministry of Food on the way to encourage the production of clean milk. They read like part of a Gilbert and Sullivan opera! For a certificate for Grade A milk (clean milk) to be obtained, an inspector of the section must visit a farm and allot marks for points. Out of 300 necessary marks 250 are given for method and the other 50 presumably for the cleanliness of the milk.

Thirty thousand organisms per cubic centimetre are allowed, but so long as they are not colon bacilli the certificate is not affected, and they may apparently be diphtheria, influenza, streptococci, etc., with impunity, and there is no guarantee at all that epidemics due to these bacteria may not be spread by this so-called clean milk. And the really important factor for our children—namely, the fat content of the milk—is entirely ignored.—I am, etc.,

Cambridge, Nov. 7th. Helen G. Leyton.

BLACKWATER FEVER.

Sir,—The very interesting "Notes on blackwater fever," by Dr. Alexander Goodall, appearing in your issue of November 6th, sum up in very concise terms the conclusions which have long been held by those who are interested in this subject. In his summary he says:

"Fourteen cases are tabulated. In twelve of these malarial parasites were found. All the cases were treated with large doses of quinine and twelve recovered. It is contended that malaria is the essential cause of blackwater fever, and that exposure to cold may be an important factor in determining its onset."

In my thesis for the M.D. degree at Cambridge, written at the end of 1892, and quoted in the first edition of *Allbutt's System of Medicine*, I dealt with this subject. After referring to blackwater fever as a form of African malaria with the added symptom of haemoglobinuria, I made the following statement, which is in remarkable agreement with the views expressed by Dr. Goodall:

"Perhaps the most interesting point which we have to consider is the relation of blackwater fever to paroxysmal haemoglobinuria. The history of the onset of changes in the urine in the two diseases and the appearance of the urine when voided is almost the same. We have the same suddenness of onset; the passing for a short time of porter-coloured urine, with in many cases a rapid return to the normal colour. The results of analyses in the two cases are practically the same. Both are liable to be brought on by chill, and both are chiefly affected by the administration of quinine."

By the latter term I was referring to the beneficial results of quinine treatment, and I am glad to see that Dr. Goodall takes this view.

In my opinion we ought definitely to abandon the view that blackwater fever is a distinct specific disease. It is malignant malaria with the added complication of haemoglobinuria. This in most instances is brought on by chill in susceptible individuals, and it is the haemoglobinuria which is the cause of the great fatality in these cases.—I am, etc.,

London, Nov. 6th. Charles F. Harford, M.D.

PUERPERAL SEPSIS.

Sir,—The British Medical Journal of July 10th, 1920 (pp. 54 and 55), contains an epitome of the discussion on the above subject in the Section of Obstetrics and Gynaecology at Cambridge. The discussion is marked by the variety of opinions expressed. The view of Mr. Victor Bonney that the source of infection was autogenous and not heterogenous is a most remarkable one, and it is not surprising to find several speakers objected to it. It appears to me an instance of laboratory work and deductions being carried on without due regard to clinical work and history. Were the source autogenous, one would expect infection to be the rule and not the exception.

I would like to refer to my experiences when resident medical officer to Queen Charlotte's Lying-in Hospital in 1883. When I began my duties in that hospital there were several cases of puerperal fever in the wards, and others were occurring, particularly on one floor. Dr. C. Chapman Grigg, one of the visiting staff, suggested to me the use of iodine as a preventive. Following his ideas, I applied the lin. iodi to the skin under the nails

and around the quicks. I immersed my hands in iodine water the colour of brown sherry, and also the instruments if they were required. On one floor no further cases occurred, and there was no more trouble. On the other floor fresh cases occurred and we were puzzled. The sister on this floor was most enthusiastic, keenly on the look-out for the slightest breach of surface—far too much so, for one night she would report to me that No. — had an abrasion, and the next night No. — had a rigor. She was sent away for a holiday and infection at once stopped. She was saturated with infection, and in her meddlesome activity infected almost every patient she examined. Probably no normal case is without some slight abrasion, and if the vagina is not explored it will heal without trouble if no infection is brought to it. All our cases were undoubtedly heterogenous.

The value of the iodine impressed me so much that I never, if possible, left my house to go to a midwifery case without first washing in iodine water. The lin. iodi always had a place in my obstetric bag. To this I attribute my good fortune in not having a septic case in my own practice. The alkalinity of the liquor amnii produces a soluble iodide, and there is no discoloration of the hands when labour is over.

If the patient is given a warm bath and the genitals are well washed with soap and water as soon as labour begins, and thorough cleanliness of doctor and nurse insisted on, every confinement should run a normal course, even if instrumental. Prevention is the object we should strive to obtain. In this light, also, too much care cannot be given to the perineum. Every tear is a possible channel of infection. To prevent these, for many years I have been in the habit of freely lubricating the tissues as the head began to dilate them. I used a mixture of balsam of Peru in white vaseline. Many a perineum softened under this and allowed the head to come through naturally or by the help of forceps without any tear. Shaving the vulva I look upon as barbarous and unnecessary. If kept clean, the hair is as much a protection against as a possible source of infection. There must be much discomfort to the patient whilst the hair is growing again. If any sutures have to be put in it may be necessary to clip away a few of the posterior hairs. In those days, of course, we had no serums, and the treatment was more or less empirical and fairly successful. It is particularly interesting to me to see how closely Dr. Amand Routh's views accord with the experience and practice at Queen Charlotte's in my time. —I am, etc.,

LEONARD W. BICKLE, F.R.C.S.Edin.

Sydney, N.S.W., Sept. 30th.

THE DENTAL BOARD.

SIR,—Your recent note (October 30th, p. 674) on the coming Dental Bill deals, naturally, with but few of the points this is likely to raise. Not the least—indeed to some of us the more important matter—is the composition of the "Dental Board," which, subject to the General Medical Council, the Dentists Act Committee recommended should have governance over the dental profession. The committee recommended that of this Board:

"One, but not more than one, of the elected dentists for England and Wales should be a registered dentist whose admission to the *Register* was in virtue of being in practice at the date of this report. The remaining dentists elected for England and Wales and the dentists elected for Scotland and Ireland should be licentiates in dental surgery. We also recommend that if and as long as registered dentists admitted to the *Dentists Register* by virtue of being in practice comprise a majority of registered dentists, one of the Crown nominees should be selected from their number to represent them."

The report was signed by all the members of the committee. It may be taken to be a working compromise between divergent opinions, and therein, perhaps, lies its strength, so far as major matters are concerned. The composition of the "Board" is a major matter, and it is surely essential that the majority of its dental members should have passed through the dental curriculum, as now prescribed, if it, as it must do, is to control, alter, and amend that curriculum which in future shall be the road by which students will obtain admission to the *Dentists Register*.—I am, etc.,

London, W., Nov. 11th. W. H. DOLAMORE.

THE CONSULTATIVE COUNCIL'S REPORT.

SIR,—To my mind the most striking paragraph of the Consultative Council's Report, from the general practitioner's point of view, is paragraph 49, page 11, headed "Efficiency of Service." This was quoted by Lord Dawson at the Willesden meeting on November 2nd, and I am sure all those who take any real interest in medical work will agree that this part of the scheme is excellent, for it is an earnest endeavour to "lift us out of the mire" into which the Insurance Act has plunged us.

"He leaves hospital for practice, and there is a sudden drop to the limited opportunities attached to the crowded surgery and the patient's home, and the more medical knowledge advances, the bigger the drop becomes. . . ."

How true this is! We all could quote instances when a patient has come under our notice in which the line of treatment was easy, for in hospital such a case was of minor importance—in a surgical sense but not the patient's—and no member of the staff would wish to deal with it. Having made all arrangements for the operation, and having pointed out to the patient and his numerous friends that there is nothing "obscure" about the symptoms, there comes a letter a day or two later saying "they would prefer to consult a specialist, as it may be a hospital case."

This state of things will in time surely be altered, for according to the scheme patients must approach the specialist by a definite route, according to his pocket, and it will be for the private doctor to exercise his option as to whether he or someone else should deal with the case.

Dr. Arthur E. Larking's letter in the current issue of the JOURNAL (November 13th) is much to the point, and I agree with all he says. I might add that it is not only the cost of living and increased expenses which force men to do a lot of work in a perfunctory manner, for doctors with large panels are rich men; and yet, what is the state of efficiency of such service? For those who wish to know, ask the patients themselves.—I am, etc.,

Willesden Green, Nov. 12th. C. L. TRAYLEN.

SIR,—The letter of Dr. Arthur Larking indicates his conversion, after careful study, to a hearty agreement with the Consultative Council's Report. He proceeds to make out a case, by means of twelve reasons, in which he declares what it will provide, which would surely be better rendered proposes to provide.

There is a wide difference 'twixt theory and practice, and the National Health Insurance Act has been in operation long enough to substantiate this statement. I am not entering upon a lengthy criticism of the working of the Insurance Act, which might well be done, but I want to indicate that the independence which we were led to believe would be preserved has been more and more encroached upon by the continued establishment of regulations, more and more subtle and irritably meddlesome, which, forsooth, have the force of law but over the formation of which we have no adequate control.

Now it is common knowledge and experience that such bureaucratic methods are, as a matter of fact, absolutely inseparable from State-organized schemes, and therefore, however well-intentioned and admittedly plausible in many aspects the report of the Consultative Council may be, I am sure we have sufficient history to warrant us in seeking to delay the evil day of Government management of our profession, and to maintain those principles of liberty, independence, and responsibility, which have to their credit such mighty achievements in the great history of individual medicine.

It is, strangely, often of far greater importance to the insured person who is on sickness benefit to demand his intermediate certificate on the appropriate day than to give the doctor any information concerning his health, and I am apprehensive that in any further development of clinical medicine under the aegis of the State there is a real danger of a lamentable waste of energy, in fulfilling a series of external mechanical details, at the serious expense of those essential ideals which have operated hitherto, and which ought to characterize the future, namely, the highest consideration of and devotion to the best interests of the patient's physical condition—first, second, last, and always.

In short, I am prepared to consider the Consultative Council's proposals seriously if and when I can be assured that the freedom of the practitioner in his work shall be

absolutely unfettered, and the performance of his duties entirely divorced from red tape interferences, unnecessary regulations and restrictions, and a multiplicity of documents.—I am, etc.,

Bournemouth, Nov. 13th. WALTER ASTEN.

BLIND MASSEURS.

SIR,—I have read with interest the letter written by Colonel Mansell Moullin with reference to the blind masseurs. I had considerable experience of the work of these men when in command of the Third London General Hospital during the war, and very cordially support all that has been written by Colonel Mansell Moullin.

The whole question of massage is a very serious one for the medical profession, as we are held responsible for the results of the treatment we recommend, and, when there are so many trained and certificated masseurs and masseuses in the country as there are to-day, it is our duty towards our patients to make sure that, when we prescribe massage, it is carried out by trained workers who have obtained the certificates of recognized training societies, such as the Incorporated Society of Trained Masseuses (since reconstructed as the Chartered Society of Massage and Medical Gymnastics), and not by those who have had no training, or who are merely acquiring practice without having undergone a thorough training.

May I accentuate the fact that all members of the Association of Certificated Blind Masseurs, referred to by Colonel Mansell Moullin, have been thoroughly trained and hold recognized qualifications?

Finally, too much stress cannot be laid upon the fact that the members of the association only undertake the treatment of patients with the consent and advice of a registered medical practitioner.—I am, etc.,

London, W., Nov. 15th. BRUCE BRUCE-PORTER.

Obituary.

THE LATE DR. WILLIAM BRUCE.—Dr. R. Fortescue Fox writes: I should like to record an impression of my old colleague, Dr. William Bruce. He was an outstanding figure in the medical profession of the north-east of Scotland, and in some ways, I think, typical of the wide countryside in which he practised for so many years. He had a hardy physique, disdainful of fatigue, by road and rail, at all hours and seasons. His mental energy and power of work were not less remarkable, and he had the great gift of tenacious memory. Such men not only seize opportunities, but make them, and they generally achieve what they set out to do. For twenty years I was associated with him as a physician at Strathpeffer Spa, and had reason to appreciate his courtesy to a junior colleague, his amazing energy, his readiness and fertility of resource in practice, and not least the keenly critical edge of his mind, which indisposed him to move readily upon new and untried lines. I like to remember his sturdy figure coming up in the early mornings to mingle with the throng at the Wells; the constantly renewed battle on the cause of sciatica—his joint theory against my nerve sheath; the intervals snatched on the Skye line for Hazlitt; and in the quiet evening in his beautiful garden at "The Castle," how we walked beside the tulips.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation, held on November 13th, the degree of M.D. was conferred upon G. E. Beaumont and J. L. Birley.

The following awards of Theodore Williams scholarships have been made:

Physiology: W. R. Bain, B.A., New College.
Human Anatomy: A. A. F. Peel, University College.
Pathology: G. T. Kerr Cross, St. John's College.

UNIVERSITY OF GLASGOW.

THE following degrees were conferred on November 13th:

M.D.—*Archibald Leitch, *A. D. M'Lachlan, ‡J. P. M'Vey, ‡M. Manson, ‡John Anderson, ‡H. L. Coulthard, ‡A. Glen, M.C., ‡J. Steedman, N. Gebbie, John Gibson, G. W. Scott.

* With Honours. † With high commendation. ‡ With commendation.

UNIVERSITY OF EDINBURGH.

THE following awards of scholarships, bursaries, etc., have been made:

Crichton Research Scholarship in Anatomy: J. A. L. Loudon, M.B., and C. W. Stump, M.B., divide. *Vans Dunlop Scholarship in Botany and Zoology:* Thomas B. Harvey. *Vans Dunlop Scholarship in Anatomy:* John Gray. *Vans Dunlop Scholarship in Physiology:* Robert K. Dewar. *Vans Dunlop Scholarship in Pathological Bacteriology:* Muriel J. Thomson. *Grierson Bursary in First Professional Subjects:* James P. Davie, M.A. *Grierson Bursary in Pathology:* George W. Ireland. *Grierson Bursary in Materia Medica:* Bruce M. Dick. *Archibald or M'Guffie Bursary:* Edward A. Wilson and David H. D. Young, divide. *Neil Arnott Prize in Experimental Physics:* James P. Davie, M.A.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council was held on November 11th, when Sir Anthony Bowlby, President, was in the chair.

Diplomas of Membership.—Diplomas of membership were granted to 88 candidates found qualified at the recent examinations.

Court of Examiners.—A vacancy on the Court, occasioned by the retirement of Mr. H. J. Waring (who is not seeking re-election), will be filled up at the next meeting of the Council in December.

Centenary Celebrations of the French Academy of Medicine.—Sir D'Arcy Power and Mr. Charles Ryall were appointed delegates to represent the College at the centenary celebrations of the French Academy of Medicine, to be held in Paris during the second fortnight in December.

The following candidates have been approved at the recent special and ordinary primary examination for the Fellowship:

B. V. Abhyanker, J. G. Ackland, K. B. Bellwood, A. C. B. Biggs, D. M. Blair, W. H. Bleaden, Alice Bloomfield, R. Brooke, G. H. Caiger, N. L. Capener, D. S. Cassidy, R. B. Chandrashud, G. R. E. Colquhoun, D. C. Corry, R. Coyte, J. M. Craig, H. E. Cumming, J. L. Davies, O. De Muth, A. R. Dingley, Doris L. Durie, G. S. Escoffery, G. J. StC. Fisher, N. B. B. Fleming, Maud F. Forrester-Brown, H. V. Forster, R. M. Fry, R. A. H. Fulton, G. J. Gillam, Evelyn E. Gourlay, J. H. Gurley, Margaret C. N. Hadley, S. N. Hayes, A. H. Heslop, Nancy M. Hield, Dorothy M. Howgate, W. Ibbotson, R. Keene, Dorothy N. L. Leverkus, D. Levi, L. A. Lewis, L. C. E. Lindon, F. Louis, W. J. Lytle, H. J. McCurrich, J. L. McDonald, G. D. F. McFadden, R. G. Michelmore, L. J. Moir, V. E. Negus, D. C. Norris, E. S. Page, B. H. Pidcock, L. M. Rice, G. D. Robertson, A. W. L. Row, E. L. K. Sargent, W. R. Spurrell, F. A. R. Stammers, Doris M. Stone, G. F. Stones, F. B. Sudbury, D. M. Sutherland, T. M. Thomas, B. M. Tracey, A. B. K. Watkins, B. W. Williams, L. H. W. Williams, E. Wolff, R. S. Woods, H. W. Wookey.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

DR. JOSEPH THEODORE WIGHAM and Dr. John Speares have been admitted Fellows and Dr. A. F. Bernard Shaw a Member and Licentiate.

CONJOINT BOARD IN ENGLAND.

THE diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the ninety candidates whose names were printed in the report of the proceedings at the comitia of the Royal College of Physicians published in our issue of November 6th, p. 724.

The Services.

HONOURS.

C.B.E.

THE honour of Commander of the Order of the British Empire has been conferred upon the following for services in or for the Commonwealth of Australia and in connexion with the war: Dr. Thomas Ernest Green, Dr. William Nathaniel Robertson (for services in connexion with repatriation, Queensland), and Dr. James Park Thomson.

Medical News.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, November 23rd, when the President, Sir Donald MacAlister, K.C.B., M.D., will take the chair and give an address.

THE Secretary of the War Office draws attention to the fact that the use of the Red Cross emblem and of the words "Red Cross" for the purposes of trade or business, or for any other purpose, without the authority of the Army Council, is an offence under Section I of the Geneva Convention Act, 1911, by which this country adhered to the Geneva Convention, 1906.

ON Armistice Day, 1919, the medical men in West Suffolk who did not hold commissions during the war invited all their colleagues who had served in His Majesty's forces to dinner at the Angel Hotel, Bury St. Edmunds, as a welcome home. This year, on Armistice Day, the guests of 1919 invited their hosts to dine. Both dinners were a great

success. More than 60 per cent. of the medical men in the area were present, several of them driving from ten to twenty miles each way to attend. It was decided this year to make the dinner an annual event on Armistice Day, and a small committee was appointed for this purpose.

MAJOR J. R. WILLIAMS, T.D., M.B., of Penmaenmawr, has been nominated for election as High Sheriff of Carnarvonshire.

THE second annual dinner of the 4th Northern General Hospital staff was held at Lincoln on Armistice Day. Lieut.-Colonel F. S. Lambert presided, and twenty-one members were present. It was decided to hold the dinner on or about the same date every year, and to invite all other medical men living in Lincoln and the neighbourhood who had served in the R.A.M.C. during the war to be present as honorary members.

THE annual dinner of the Medico-Legal Society will take place at the Holborn Restaurant on Friday, December 10th. Tickets, price 14s. 6d. (exclusive of wine), can be obtained from the Honorary Secretary of the Society, 3, South Square, Gray's Inn, W.C.1.

THE inaugural dinner of the twenty-fourth session of the Chelsea Clinical Society, the first to be held since the war, took place on October 29th at the Café Royal, when sixty members and guests were present. Owing to a sudden bereavement, the president, Dr. A. G. Buchanan, was unable to be present, and Dr. D. M. Barcroft, vice-president, took the chair. The guests of the society were the Vice-Chancellor of the University of London and the Presidents of the Medical Society of London and the Harveian Society.

DR. J. MACDONALD BROWN has been appointed chairman of the Hampstead bench of magistrates.

DR. RALPH NORMAN has received a presentation from the Southend Lawn Tennis Club upon his resignation of the treasurership held by him for over ten years.

THE Chadwick Trustees have arranged another series of public lectures. On November 25th, at 5.15, Dr. J. B. Farmer, Professor of Botany at the Imperial College of Science, will give a lecture at the house of the Medical Society of London on "Some biological aspects of disease." On December 3rd, at 7.30, Sir Malcolm Morris will lecture at Manchester, with the Lord Mayor in the chair, on "Chadwick and his message for to-day." On the same day and hour Sir Robert Hill, Medical Director-General R.N., will speak at the house of the Literary and Philosophical Society, Newcastle-on-Tyne, on "Naval and maritime hygiene in relation to shipbuilding." He will deal in particular with the problems of ventilation, accommodation, water supply, and the prevention of disease.

AN announcement from the Ministry of Health will be found in our advertising columns to the effect that a woman practitioner will be appointed medical officer of the Ministry for duties especially in connexion with maternity and child welfare.

CONTRIBUTIONS are invited towards the building fund of Queen Mary's Home for St. Bartholomew's Hospital nurses. Half the amount needed for the new home has already been subscribed. The honorary secretary is Mr. W. McAdam Eccles, who will gratefully receive and acknowledge contributions forwarded to him at the hospital.

A SPECIAL post-graduate course is to be held at the Prince of Wales's General Hospital, Tottenham, N.15, from December 6th to 18th inclusive. Each morning there will be practical demonstrations on the more important clinical methods and on laboratory methods as applicable in medical practice. In the afternoons demonstrations will be given on groups of selected cases at 2 p.m., and the hour from 3 to 4 p.m. will be devoted to the general work of the hospital. At 4.30 p.m. clinical lectures will be delivered by Sir Thomas Horder, Lieut.-Colonel Kirkpatrick, Dr. John Eyre, Dr. W. H. B. Stoddart, Dr. Philip Manson-Bahr, and others, and on two afternoons clinical consultations will be held on obscure medical and surgical cases. On Saturdays demonstrations will be given on the early diagnosis of the infectious fevers at the North-Eastern Fever Hospital, St. Ann's Road, N., on dementia praecox at the London County Council Mental Hospital, New Southgate, N., and on the electro-cardiographic examination of cases of heart disease at the Royal Hospital for Diseases of the Chest, City Road, E.C. Luncheon will be obtainable in the neighbourhood of the hospital, and tea will be provided each day at 4 p.m. The lectures at 4.30 p.m. will be free to qualified medical practitioners. Further information and syllabus may be obtained from the Dean at the hospital.

The forty-second autumn general meeting of the Irish Medical Schools' and Graduates' Association was held last week at Pagani's Restaurant, Dr. W. J. Corbett, Chairman of the Council, presiding over a large attendance of members. It was reported that the development of the Association continued to be most satisfactory. The autumn banquet took place the same evening, Dr. Michael J. Bulger, the President, being in the chair; there were over a hundred members and their guests. Lord Hemphill, in giving the toast "Prosperity to the Association," said that, as an Irishman, he felt proud to be entertained by a society in which the Celtic spirit of good fellowship was so strong that for the whole forty years and more of its existence there had not been even a whisper of a quarrel, albeit they had on the roll representatives of every religious creed and every political party. They might also be proud of the fact that their Association was the first medical society to the membership of which women were admitted in this country. The toast of "Our Guests," proposed by Dr. Gubbins Fitzgerald, was responded to by Lord Shaw. The enjoyment of the evening was increased by the singing of Miss Sophie Rowlands and Mrs. Tailleur-Andrews.

THE Registrar-General's last quarterly return gives the number of births and deaths registered in England and Wales during July, August, and September. The deaths numbered 93,690, being 25,593 fewer than in the preceding quarter, but 4,578 more than in the third quarter of last year. The total deaths during the three months correspond to an annual rate of 10.1 per 1,000 total population in England and Wales in 1919. Influenza was stated to be either a primary or a contributory cause of death in 705 (or 0.8 per cent.) of the total registered deaths. One death only from small-pox is recorded. Infant mortality, measured by the proportion of deaths under one year of age to registered births was equal to 65 per 1,000, being 36 per 1,000 below the average in the ten preceding third quarters and the lowest recorded rate for any quarter of the year. The cold and wet summer was reflected in a very low death rate from diarrhoea and enteritis in London and most of the great towns. In London the mean earth temperature was lower than that in any summer quarter during the past fifty years, and the mortality from diarrhoea and enteritis was considerably lower both at all ages and in children under one year.

THE Research Defence Society has lately published four pamphlets of general interest: (1) Vaccination, by Dr. Mary Scharlieb; (2) The Prevention of Tetanus during the Great War by the Use of Antitetanic Serum, by Sir David Bruce; (3) The Work of the Medical Research Committee, by Sir Walter Fletcher; (4) The Value of Experiments on Animals—Notes of Personal Experience, by Sir Leonard Rogers. The price of the set is 2s. Application should be made to the Secretary, Research Defence Society, 11, Chandos Street, Cavendish Square, London, W.1.

THE Express Dairy Company, London, inform us that they are now producing Grade A (certified) milk, under licence of the Ministry of Health. The conditions which must be fulfilled are stringent; in particular, the herd must be tubercle-free, the milk must be bottled on the producer's premises, must be free from *B. coli*, and must not contain more than 30,000 bacteria per cubic centimetre. Full particulars will be found in an article published in our columns on March 6th, 1920, p. 336.

THE medical officer of health for Huddersfield (Dr. S. G. Moore) reports that the adoption of the principle of giving help to infants and mothers in the home has been attended by results equal to the best obtained elsewhere, and superior to those obtained (often by more elaborate methods) in most localities. Since this principle has been adopted, the annual infant mortality has been reduced by about 30 per cent. Dr. Moore recommends that none but medical women should be employed in home visiting. He believes that one visit a week to each child during the first month, two a month during the next two months, and one a month during the ensuing nine months, will suffice, supplemented by the work of the local public health union. The measures recommended in the report have been approved in principle by the Huddersfield sanitary authority, and are to be applied to one-third of the borough.

THE next annual meeting of the Société d'Orthopédie will be held at Strasbourg on October 7th, 1921, when the following subjects will be discussed: Remote results of bloodless reduction of congenital dislocation of the hip, introduced by Dr. Froelich of Nancy; arthrodesis of the foot, introduced by Dr. Ombrédanne of Paris; operative treatment of ankylosis of the knee, introduced by Dr. Tavernier of Lyons.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

URETHRAL NAEVUS.

"COUNTRY DOCTOR" asks for advice in the treatment of a circular naevus of the vaginal opening of the urethra in a woman of 42, which causes considerable irritation at night as the only symptom.

*** Our correspondent will realize that "absent treatment" is always difficult. As a palliative carbolic acid in olive oil, 1 in 60, may be suggested. Radical cure consists in excision, drawing down the urethral mucous membrane, and suturing to the vaginal mucous membrane.

TREATMENT OF PSORIASIS.

"B." writes: I have a patient who has suffered for years from psoriasis of the scalp and body. The former is the bugbear, as the scabs are so obvious, whereas when removed by salicylic acid compounds the red patches are equally noticeable. Can any reader suggest some treatment which will either cure the condition or, at any rate, make it less of a trial for the patient? I have tried most of the usual remedies, but the bulk of ointments are too messy and unsightly. *X* rays cure the body patches, but others recur elsewhere.

*** It is sometimes possible by the judicious use of *x* rays to remove, at least temporarily, psoriasis of the scalp. Considerable experience is required to regulate the dose and avoid depilation. Where this treatment is impossible a preparation of resorcin gr. xx in olive oil and vaseline, each ʒss, may be tried. In any circumstances treatment of some forms of psoriasis of the scalp is disappointing, and in the case quoted nothing except *x* rays may prove successful.

INCOME TAX.

"SENEX" states that he sold his practice in March, 1920. His income for many years was the product of accounts rendered in July and December. On ceasing practice he issued bills for outstanding debts and arrears, so that the receipts were bigger than the average estimate, largely by an account which would normally have been taken in July. He asks how much of this should pay tax and in which year.

*** In our view "Senex" ceased to be liable to income tax as from the date when he ceased to exercise his profession; he has already been assessed to income tax for the year to April, 1920, and has accounted for liability in respect of his earnings up to that date. The receipts which have since come to hand relate to profits for years for which he has already paid tax. The position will perhaps be clearer if it be remembered that the cash receipts which have in the past furnished the basis on which the liability has been computed have been so treated on the assumption that they were equivalent—taking one year with another—to the accruing income, and that it is on the latter income that tax has in effect been paid. It follows, of course, that the successor of "Senex" is liable to assessment on the normal profits of the practice for the present financial year.

"P. M. H." owns the lease of his house and garage, and lets one consulting room and the garage, paying tax thereon as a profit received from letting. He also pays tax, under Schedule A, on the value of the whole of the premises. He asks: Is this correct?

*** On the face of it, no; but we should like to know a little more of the circumstances before saying that the inspector's procedure is incorrect. A proportion of the total annual value is presumably deducted in calculating the profits taxable under Schedule D, and if this proportion includes that part of the premises which is let, then it is correct. If, for instance, £200 represents the total annual value and two-thirds is allowed for Schedule D purposes, then the rent from letting must be brought into the gross income, as the garage and consulting room in question are included in the two-thirds of £200 deducted or excluded. If this hypothesis does not cover the facts sufficiently to make the matter clear, perhaps our correspondent will communicate with us again.

LETTERS, NOTES, ETC.

DR. EDITH BROWN, Principal of the Women's Christian Medical College, Ludhiana, Punjab, would be grateful to medical practitioners who would send her medical papers and journals after they have been read; postage will be repaid. The college, which is incorporated with the Punjab Medical School for Women, gives medical training to native Christians and other native women.

CEREAL EARS AS FOREIGN BODIES.

DR. G. C. M. M'GONIGLE (Darlington) writes: It may interest Mr. R. Eccles Smith (November 6th, p. 701) to know that John Evelyn mentions, in his well known *Diary*, a case of a woman who swallowed a whole ear of barley, and that the ear worked out of her side. The entry in his *Diary* is dated December 4th, 1662.

FIVE GREAT-GRANDPARENTS ALIVE.

"A. G." writes: With reference to Dr. J. Robertson Hall's letter in the BRITISH MEDICAL JOURNAL of November 13th, I know of an authentic case in which the child (both parents aged 23 years) had at birth 5 great-grandparents (4 female and 1 male), and 3 grandparents (2 female and 1 male). This case differs from Dr. Hall's inasmuch as the great-grandparents were not all on one side of the house, but it is interesting on account of the six grandmothers (4 great-grandmothers and 2 grandmothers) being all alive. A second child was born before the first death among the grandparents, five years subsequent to the birth of the first child.

MOTORING IN FRANCE.

DR. D. W. SAMWAYS (Mentone) writes: Sir StClair Thomson lately called attention to the fact that pneumatic tyres could be purchased in France much cheaper than in England, in his experience at about £5 less each. A week ago, on arriving at Dieppe, I bought a new Dunlop Magnum tyre, 820 × 120, for 371 francs, which is now equivalent to less than £7, the price in England being, I believe, about £13. In France petrol (essence) is obtainable everywhere. The price throughout my journey out never (except at one place) exceeded 13 francs, nearly 6s. a gallon. I should recommend motorists tempted to visit France not to do so unless their cars are equipped with wheels high enough to negotiate the French roads in their present state. The average British car is built with low wheels for smooth roads; they make poor running where potholes are rather the rule than the exception.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36, 39, 40, 41, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 37, 38, and 39.

THE appointment of certifying factory surgeon at North Tawton (Devon) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste-restante* letters addressed either in initials or numbers.